



Fort Greely Installation, Fort Greely, Alaska



Environmental Assessment

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18 April 2005

U.S. Army Garrison Fort Greely
Director of Installation Services
ATTN: Chief, Environmental Office
Box 1289
Delta Junction, AK 99737

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DEPARTMENT OF THE ARMY
INSTALLATION MANAGEMENT AGENCY
HEADQUARTERS, UNITED STATES ARMY GARRISON, FORT GREELY
P. O. BOX 31310
FORT GREELY, ALASKA 99731

REPLY TO
ATTENTION OF:
Directorate of Public Works

April 18, 2005

Defense Technical Information Center
8725 John J. Klingman Road
Suite 0944
Ft. Belvoir VA 22060-6218

SUBJECT: Fort Greely Installation Environmental Assessment (EA)

Dear Sir or Madam:

Enclosed for your information and use are the Fort Greely Environmental Assessment and associated Draft Finding of No Significant Impact. This office should receive comments on these documents no later than May 18, 2005. The documents are also available on the internet at <http://www.smdcen.us/pubdocs/>.

Questions and comments regarding these documents or requests for additional copies should be addressed to:

U.S. Army Garrison Fort Greely
Attention: Christine Boerst
P.O. Box 31310, Fort Greely, AK 99731
Or by data facsimile: (907) 873-1117
Or by electronic mail: christine.boerst@greely.army.mil

If you have any questions or comments, please contact Christine Boerst (907) 873-4665.

Sincerely,


Christine Boerst
Environmental Chief

Enclosures

**FORT GREELY INSTALLATION
FORT GREELY, ALASKA
ENVIRONMENTAL ASSESSMENT**

AGENCY: U.S. Army Garrison Fort Greely

ACTION: Draft Finding of No Significant Impact

BACKGROUND: The National Environmental Policy Act (NEPA) of 1969, the Council of Environmental Quality regulations implementing NEPA, Department of Defense (DoD) Instruction 4715.9, and the applicable service environmental regulations, which implement these laws and regulations, direct DoD officials to consider environmental consequences when authorizing and approving federal actions.

A number of future projects are planned for the Cantonment Area, Missile Field Complex Area, and Allen Army Airfield Area at Fort Greely that require documented environmental analyses. The Fort Greely Summary Development Plan, a variation of the Installation Master Plan endorsed by the U.S. Army Corps of Engineers, has been prepared in accordance with the current version of U.S. Army Regulation (AR) 210-20, *Master Planning for Army Installations*. In accordance with AR 200-2, *Environmental Effects of Army Actions*, an Environmental Assessment (EA) is required to analyze the potential impacts of implementing an installation Master Plan. As a component of the installation master plan, and in accordance with AR 22-4, *Cultural Resources Management*, it is recommended that an EA be prepared to implement Integrated Cultural Resource Management Plans (ICRMPs).

DESCRIPTION OF THE PROPOSED ACTION: The Proposed Action under evaluation includes:

- Implementing the comprehensive planning process defined in the Fort Greely Summary Development Plan, including the proposed projects in the Cantonment Area, the Missile Field Complex Area, and the Allen Army Airfield Area.
- Implementing the planning process defined in the ICRMP and Integrated Pesticide Management Plan (IPMP)
- Considering the Installation Restoration Program (IRP) sites in environmental and master planning

ALTERNATIVES TO THE PROPOSED ACTION

No-Action

Under the No-action Alternative, the proposed projects would be carried out without the benefit of the comprehensive planning process defined in the Summary Development

Plan, ICRMP, and IPMP. New projects would be evaluated under NEPA on an individual basis. Potential impacts to cultural resources would be evaluated through consultation under Section 106 of the National Historic Preservation Act on a case-by-case basis. However, without the ICRMP, procedures for integrating Section 106 requirements with installation-wide planning would not be standardized.

Activities previously identified and analyzed in other documents would be executed as planned and the IRP actions would continue, without consideration of the Summary Development Plan, ICRMP, or IPMP.

ENVIRONMENTAL EFFECTS

Methodology

Fourteen areas of environmental consideration were evaluated to provide a context for understanding the potential effects of the Proposed Action and to provide a basis for assessing the severity of potential impacts. These areas included air quality, airspace, biological resources, cultural resources, geology and soils, hazardous materials and waste, health and safety, land use, noise, socioeconomics, transportation, utilities, water resources, and environmental justice.

Airspace resources are not expected to be affected sufficiently to warrant further discussion and were eliminated from further analysis.

ENVIRONMENTAL CONSEQUENCES OF THE PROPOSED ACTION

Only those activities for which a potential environmental concern was determined are described within each resource summary.

Air Quality

Construction and operational activities proposed for the Cantonment Area, Missile Field Complex Area, and Allen Army Airfield Area would be conducted in accordance with applicable air quality permit requirements and would not cause adverse impacts to air quality in the region. It is anticipated that the proposed construction activities for the Fort Greely Cantonment Area would not cause exceedances of National Ambient Air Quality Standards or Alaska Ambient Air Quality Standards and would not have a long-term impact to air quality in the area. Once construction ceases, air quality would return to its former levels. An increase in air traffic in and out of the Allen Army Airfield, from 2 to 3 flights per week up to approximately 40 flights per week, is not expected to exceed National Ambient Air Quality Standards or Alaska Ambient Air Quality Standards.

Biological Resources

Proposed new housing adjacent to the existing residential area would require the removal of approximately 14.5 acres of low growing spruce forest. This could result in displacement of wildlife, increased stress, and disruption of daily/seasonal behavior; however, spruce forest is common throughout Interior Alaska and additional spruce forest habitat is located adjacent to the areas to be cleared. Typical noise levels 50 feet from construction equipment ranges from 70 to 98 A-weighted decibels (dBA). The combination of increased noise levels and human activity would likely displace some small mammals and birds that forage, feed, nest, or have dens within this 50-foot radius.

The proposed southern boundary fence crosses approximately 150 feet of emergent persistent semi-permanently flooded wetland. If upgrades to the trail crossing the wetland are necessary, the filling of about 1 acre of wetlands would be needed and a 404 Nationwide Permit from the U.S. Army Corps of Engineers would be referenced.

Cultural Resources

The Fort Greely ICRMP would be expected to have a positive beneficial effect on the protection and investigation of cultural resources. A systematic comprehensive installation archeological survey would be performed, suspected cultural sites would be further investigated, new legislation to identify and protect potential cultural resources would be addressed, and any verified culturally significant sites would be protected and preserved. Although fencing and clearing activities at the Missile Field Complex Area would extend into areas that have not currently been surveyed, a comprehensive archaeological survey planned to begin May 2005 will include areas that have yet to be surveyed.

Geology and Soils

Potential soil impacts in the Cantonment Area, Missile Field Complex Area, and Allen Army Airfield would be associated with soil erosion through soil disturbing activities such as potential trenching, excavation, and clearing of vegetation. Adverse effects would be minimal due to the short duration and would be limited to the immediate vicinity of the construction site. Soil management practices would be implemented to reduce the potential for soil erosion.

Hazardous Materials and Waste

The Proposed Action in the Missile Field Complex Area would include tree clearing and ground disturbance around the missile field security fence and installation of the southern boundary fence. These areas include the Canadian and American National Oil Line (CANOL) Pipeline Tank Farm west of the missile field; Landfill 6 northeast of the missile field; Range 2 south of the missile field; and former World War II Tent Site north of the missile field. Ground disturbance would have the potential to result in the release of hazardous materials and wastes at these sites. The potential impacts from facility construction activities at the Allen Army Airfield Area would include clearing for airfield obstructions which has the potential to result in the release of hazardous materials and wastes due to disturbance of the Site 85 North and construction of a fire station which has the potential to disturb Site 101. Fort Greely's Directorate of Public Works Environmental Office would review all dig permit applications and would issue appropriate best management practices, controls, and appropriate warning to minimize the disturbance of contaminated areas of concern. If land disturbance activities at the sites encounter contamination, the Alaska Department of Environmental Conservation would be notified, a sampling and treatment plan developed, and the contaminated material would be properly remediated or disposed of in accordance with applicable regulations.

Health and Safety

The construction of new facilities is routinely accomplished for both military and civilian operations and presents only occupational-related effects on the safety and health of workers involved in the performance of construction activity.

Land Use

Proposed new housing construction would occur on approximately 14.5 acres of land currently designated as natural area. This represents a small percentage of the natural area on Fort Greely, and it is adjacent to the existing residential area. Changes to land use due to the proposed activities would not conflict with any federal, state, or local land use plans or policies.

Noise

The existing Installation Environmental Noise Management Plan would help mitigate potential impacts on the noise environment at Fort Greely. Noise from refurbishment and repair and construction activities would result in 65 dBA and 75 dBA noise levels occurring within approximately 500 feet and 400 feet from a construction site, respectively. These noise levels would include some of the existing housing and part of the Fort Greely School. To minimize impacts, noise from construction activities would need to be controlled to the extent practicable. Coordination with the Fort Greely School, prior to and during construction, would help to minimize potential noise impacts. Joint use activities proposed for the Allen Army Airfield Area would include up to approximately 40 flights per week. The closest sensitive noise receptors of concern are the residents of Delta Junction and the Fort Greely School. While there is a potential for a slight increase in noise levels, it is anticipated that noise levels from the additional flights would not impact sensitive noise receptors on Fort Greely or in the off-base area.

Socioeconomics

Only positive impacts on socioeconomics were identified. The addition of a new community center and other community oriented facilities would help to improve quality of life on the installation. Potential employment opportunities resulting from construction and operation of these new facilities would provide a positive socioeconomic impact. Potential for employment of civilian contractors during the repair and refurbishment would be a positive, if short-term, impact on area socioeconomics. Staffing of new facilities could actually provide the potential for increased employment, though on a limited basis. Anticipated increases in flight activity due to development and operation of joint use facilities in the Allen Army Airfield Area could also provide increased employment opportunities.

Transportation

Workers traveling to construction sites, construction of new buildings and facilities, paving, and trenching for utilities could temporarily impede road traffic in areas of construction and repair. These impacts would be localized and of limited duration, and adverse effects would be minimized with proper planning and scheduling.

Utilities

Certain repair and construction projects would have direct short-term impacts from utility interruptions. However, these effects would be temporary and localized to the areas under construction and refurbishment, and impacts would be minimized with proper planning and scheduling. In addition, these proposed activities would reduce any deficiencies and undesirable elements of certain infrastructure, resulting in a long-term positive impact on utilities capacity and capabilities.

Water Resources

A minor increase in sediment in surface waters is possible from construction and land clearing activities; however, due to the distance between the construction sites and surface water bodies, impacts would be negligible. Since construction would result in the disturbance of more than 1 acre of land, the activities would be subject to federal National Pollutant Discharge Elimination System storm water permitting requirements. As such, all construction activities would be conducted in accordance with the Fort Greely Storm Water Pollution Prevention Plan.

Environmental Justice

No long-term, adverse environmental, cultural, health, or economic effects have been identified in this EA. There are no low-income or minority populations that could be disproportionately affected by the proposed activities at Fort Greely.

Cumulative Impacts

Cumulative impacts are those that result when impacts of an action are combined with the impacts of past, present, and reasonably foreseeable future actions at a location. Cumulative impacts were considered for each resource area. The resource areas with the most potential for cumulative impacts include air quality, biology, noise, and transportation.

Emissions produced during construction activities would add cumulatively to emissions from sources in the area, but these emissions would be temporary and are not anticipated to result in a measurable impact to air quality. In addition, the Draft C-17 Flight Training Areas EA for Elmendorf Air Force Base, Alaska includes potential training mission requirements of approximately 900 assault landings per year at Allen Army Airfield. The air emissions associated with these landings were calculated to be approximately 45 tons of oxides of nitrogen and 25 tons of carbon monoxide per year. These mobile source emissions from the C-17 aircraft would be intermittent and would be rapidly dispersed. Therefore, it is anticipated that proposed activities at the Allen Army Airfield, when combined with the emissions identified in the Draft C-17 Flight Training Areas EA, would not result in cumulative air quality impacts.

Biological impacts would include the loss of a small amount of low growing spruce forest habitat at Fort Greely. Given the small amount of loss of wildlife habitat in the region of Fort Greely from past and current development and the vast amount of undeveloped land in the area, the additional loss of habitat from the proposed installation would not result in a substantial cumulative reduction in habitat for wildlife use.

Noise impacts have been identified from potential C-17 flight training at Allen Army Airfield and potential Battle Area Complex operations east of Fort Greely. Possible planned activities at the Allen Army Airfield, identified in the Draft C-17 Flight Training Areas EA, include the potential for up to 900 assault landings per year on runway 06/24. Noise modeling contours for the C-17 would not impact any sensitive noise receptors on Fort Greely or in the off-base areas. Although there would be some potential for a slight increase in the combined noise contours, the noise levels would still not be expected to

reach any sensitive noise receptors on Fort Greely or the off-base area; therefore, any cumulative impacts would not be significant.

Another potential for cumulative noise impacts was identified in the Draft Environmental Impact Statement (EIS) for the Construction and Operation of a Battle Area Complex and a Combined Arms Collective Training Facility within U.S. Army Training Lands in Alaska. The EIS identifies proposed heavy weapons and demolition noise levels that could affect noise levels at Fort Greely. In the event that the Eddy Drop Zone is the selected Battle Area Complex alternative, peak noise levels from high-energy impulsive sounds could exceed a threshold for complaint potential. A moderate risk of complaints would occur at 115 dB. Based on modeling results in the EIS, approximately 10 to 30 percent of the time adverse weather conditions would result in the 115 dB threshold level extending over an area that includes much of the Fort Greely Cantonment Area and the Missile Field Complex Area. Therefore, the noise levels from the proposed construction activities in the Cantonment Area, when combined with the noise from selection of the Eddy Drop Zone as the proposed Battle Area Complex, could result in cumulative noise impacts. However, the Battle Area Complex noise would be short-duration impulse noise that would only occur during training exercises, several times per year.

Planned roadway upgrades and the proposed extension of the Alaska Railway system, expected to be completed within approximately 5 years, would help to offset the levels of roadway traffic leading to the installation and would result in a positive cumulative impact on transportation.

CONCLUSION: The environmental analysis shows that no significant impacts would occur from the Proposed Action to implement the comprehensive planning processes defined in the Fort Greely Summary Development Plan, ICRMP, and IPMP. Preparation of an EIS, therefore, is not required. A follow-up action list will be developed and completed by the Executing Agent to ensure compliance with the actions described in the EA.

DEADLINE FOR RECEIPT OF WRITTEN COMMENTS: May 18, 2005

POINT OF CONTACT: Submit written comments or requests for a copy of the Fort Greely Installation, Fort Greely, Alaska, Environmental Assessment to:

U.S. Army Garrison Fort Greely, Director of Installation Services
ATTN: Chief, Environmental Office
Box 1289
Delta Junction, AK 99737

**FORT GREELY INSTALLATION
FORT GREELY, ALASKA
ENVIRONMENTAL ASSESSMENT**

AGENCY: U.S. Army Garrison Fort Greely

ACTION: Finding of No Significant Impact

APPROVED:

DATE: _____

ROBERT E. CORNELIUS
LT Colonel, U.S. Army
Garrison Commander

EXECUTIVE SUMMARY

EXECUTIVE SUMMARY

Introduction

A number of future projects are planned for the Cantonment Area, Missile Field Complex Area, and Allen Army Airfield Area at Fort Greely that require documented environmental analyses. The Fort Greely Summary Development Plan, a variation of the Installation Master Plan endorsed by the U.S. Army Corps of Engineers, has been prepared in accordance with the current version of U.S. Army Regulation (AR) 210-20, *Master Planning for Army Installations*. In accordance with AR 200-2, *Environmental Effects of Army Actions*, an Environmental Assessment (EA) is required to analyze the potential impacts of implementing an installation Master Plan. In addition, resource management plans for Fort Greely require environmental analysis.

Proposed Action

The purpose of the Proposed Action is to fulfill the planning guidance provided by AR 210-20, *Master Planning for Army Installations*. AR 210-20 establishes a relationship between environmental planning and real property planning to ensure that environmental consequences of planning decisions are addressed. It also includes a requirement that National Environmental Policy Act (NEPA) will be integrated into the master planning process. As a component of the installation master plan, and in accordance with AR 200-4, *Cultural Resources Management*, it is recommended that an EA be prepared to implement Integrated Cultural Resource Management Plans (ICRMPs). In addition, AR 200-2, *Environment Effects of Army Actions*, requires that the Integrated Pest Management Plan (IPMP) be analyzed under NEPA.

No-Action Alternative

Under the No-action Alternative, the proposed projects would be carried out without the benefit of the comprehensive planning process defined in the Summary Development Plan, ICRMP, and IPMP. New projects would be evaluated under NEPA on an individual basis. Potential impacts to cultural resources would be evaluated through consultation under Section 106 of the National Historic Preservation Act on a case by case basis. However, without the ICRMP, procedures for integrating Section 106 requirements with installation-wide planning would not be standardized.

Activities previously identified and analyzed in other documents would be executed as planned and the Installation Restoration Program (IRP) actions would continue, without consideration of the Summary Development Plan, ICRMP, or IPMP.

Methodology

Fourteen areas of environmental consideration were evaluated to provide a context for understanding the potential effects of the Proposed Action and to provide a basis for assessing the severity of potential impacts. These areas included air quality, airspace, biological resources, cultural resources, geology and soils, hazardous materials and waste, health and safety, land use, noise, socioeconomics, transportation, utilities, water resources, and environmental justice.

Airspace resources were covered in the Ground-Based Midcourse Defense (GMD) Validation of Operational Concept (VOC) Supplemental EA and are not expected to be affected sufficiently to warrant further analysis in this EA. Modifications to activities at Allen Army Airfield, including the addition of an ASR-11 or similar type airport surveillance radar, the addition of Class D airspace to the existing Class E controlled airspace, and the construction and activation of a control tower, were addressed in the GMD VOC Supplemental EA. Based on the limited information available, the potential joint use of Allen Army Airfield is not expected to impact airspace. If the Air Force decides to conduct C-17 flight training at Allen Army Airfield, existing airspace would receive additional use, but the designation of the airspace would not change.

Environmental Consequences of the Proposed Action

Only those activities for which a potential environmental concern was determined are described within each resource summary.

Air Quality

Construction activities proposed for the Cantonment Area, Missile Field Complex Area, and Allen Army Airfield Area would be conducted in accordance with applicable air quality permit requirements. It is anticipated that the proposed construction activities for the Fort Greely Cantonment Area would not cause exceedances of National Ambient Air Quality Standards or Alaska Ambient Air Quality Standards and would not have a long-term impact to air quality in the area. Once construction ceases, air quality would return to its former levels.

Operational activities in the Cantonment Area, Missile Field Complex Area, and Allen Army Airfield Area would also be conducted in accordance with applicable air quality permits and would not cause adverse impacts to air quality in the region. An increase in air traffic in and out of the Allen Army Airfield, from 2 to 3 flights per week up to approximately 40 flights per week, is not expected to exceed National Ambient Air Quality Standards or Alaska Ambient Air Quality Standards.

Biological Resources

No known threatened, endangered, or candidate resident wildlife species occur, and no federally proposed or designated critical habitat has been identified on Fort Greely.

Proposed new housing adjacent to the existing residential area would require the removal of approximately 14.5 acres of low growing spruce forest; however, spruce forest is common throughout Interior Alaska and additional spruce forest habitat is located adjacent to the areas to be cleared. Impacts to wildlife from the proposed activities within the Cantonment Area could include loss of approximately 14.5 acres of habitat, displacement of wildlife, increased stress, and disruption of daily/seasonal behavior. Typical noise levels 50 feet from construction equipment ranges from 70 to 98 A-weighted decibels (dBA). The combination of increased noise levels and human activity would likely displace some small mammals and birds that forage, feed, nest, or have dens within this 50-foot radius. However, additional similar habitat is located throughout the Cantonment Area. The proposed southern boundary fence crosses approximately 150 feet of emergent persistent semi-permanently flooded wetland. If upgrades to the trail crossing the wetland are necessary, the filling of about 1 acre of wetlands would be needed and a 404 Nationwide Permit from the U.S. Army Corps of Engineers would be referenced.

Cultural Resources

Based on the 2000 Memorandum of Agreement between Fort Greely and the State Historic Preservation Officer, the Army prepared a Historic American Building Survey for 26 Cold War buildings within the Cantonment Area that met the National Register eligibility requirements. As a result, any identified historic structures of national significance would not be adversely affected by any proposed construction, repair, or infrastructure improvements.

The Fort Greely ICRMP would be expected to have a positive beneficial effect on the protection and investigation of cultural resources. A systematic comprehensive installation archeological survey would be performed, suspected cultural sites would be further investigated, new legislation to identify and protect potential cultural resources would be addressed, and any verified culturally significant sites would be protected and preserved. Although fencing and clearing activities at the Missile Field Complex Area would extend into areas that have not currently been surveyed, a comprehensive archaeological survey planned to begin May 2005 will include areas that have yet to be surveyed.

Geology and Soils

Potential soil impacts in the Cantonment Area, Missile Field Complex Area, and Allen Army Airfield would be associated with soil erosion through soil disturbing activities such as potential trenching, excavation, and clearing of vegetation. Adverse effects would be minimal due to the short duration and would be limited to the immediate vicinity of the construction site. Soil management practices would be implemented to reduce the potential for soil erosion.

Hazardous Materials and Waste

The Proposed Action in the Missile Field Complex Area would include tree clearing and ground disturbance around the missile field security fence. This area includes the CANOL Pipeline Tank Farm west of the missile field; Landfill 6 northeast of the missile field; and former World War II Tent Site north of the missile field. Installation of the southern boundary fence would disturb the Range 2 site. Ground disturbance would have the potential to result in the release of hazardous materials and wastes at these sites. The potential impacts from facility construction activities at the Allen Army Airfield Area would include clearing for airfield obstructions which has the potential to result in the release of hazardous materials and wastes due to disturbance of the Site 85 North. Fort Greely's Directorate of Public Works Environmental Office would review all dig permit applications and would issue appropriate best management practices, controls, and appropriate warning to minimize the disturbance of contaminated areas of concern.

Health and Safety

The construction of new facilities is routinely accomplished for both military and civilian operations and presents only occupational-related effects on the safety and health of workers involved in the performance of construction activity. Construction and repairs would be conducted in accordance with applicable regulations and permits.

Land Use

Proposed new housing construction would occur on approximately 14.5 acres of land currently designated as natural area. This represents a small percentage of the natural area on Fort

Greely and it is adjacent to the existing residential area. Changes to land use due to the proposed activities would not conflict with any federal, state, or local land use plans or policies.

Noise

The existing Installation Environmental Noise Management Plan would help mitigate potential impacts on the noise environment at Fort Greely.

Noise from refurbishment and repair and construction activities would result in the 65 dBA and 75 dBA noise levels occurring within approximately 500 feet and 400 feet from a construction site, respectively. These noise levels would include some of the existing housing and part of the Fort Greely School. To minimize impacts, noise from construction activities would need to be controlled to the extent practicable. Coordination with the Fort Greely School, prior to and during construction, would help to minimize potential noise impacts.

Joint use activities proposed for the Allen Army Airfield Area would include up to approximately 40 flights per week. The closest sensitive noise receptors of concern are the residents of Delta Junction and the Fort Greely School. While there is a potential for a slight increase in noise levels, it is anticipated that noise levels from the additional flights would not impact sensitive noise receptors on Fort Greely or in the off-base area.

Socioeconomics

Only positive impacts on socioeconomics were identified. The addition of a new community center and other community oriented facilities would help to improve quality of life on the installation. Potential employment opportunities resulting from construction and operation of these new facilities would provide a positive socioeconomic impact. Potential for employment of civilian contractors during the repair and refurbishment would be a positive, if short-term, impact on area socioeconomics. Staffing of new facilities could actually provide the potential for increased employment, though on a limited basis. Anticipated increases in flight activity due to development and operation of joint use facilities in the Allen Army Airfield Area could provide increased employment opportunities.

Transportation

Workers traveling to construction sites, construction of new buildings and facilities, paving, and trenching for utilities could temporarily impede road traffic in areas of construction and repair. These impacts would be localized and of limited duration and adverse effects would be minimized with proper planning and scheduling.

Utilities

Certain repair and construction projects would have direct short-term impacts from utility interruptions. However, these effects would be temporary and localized to the areas under construction and refurbishment, and impacts would be minimized with proper planning and scheduling. In addition, these proposed activities would reduce any deficiencies and undesirable elements of certain infrastructure, resulting in a long-term positive impact on utilities capacity and capabilities.

Water Resources

A minor increase in sediment in surface waters is possible from construction and land clearing activities, however, due to the distance between the construction sites and surface water bodies impacts would be negligible. Since construction would result in the disturbance of more than 1 acre of land, the activities would be subject to federal National Pollutant Discharge Elimination System storm water permitting requirements. As such, all construction activities would be conducted in accordance with the Fort Greely Storm Water Pollution Prevention Plan.

Environmental Justice

No long-term, adverse environmental, cultural, health, or economic effects have been identified in this EA. There are no low-income or minority populations that could be disproportionately affected by the proposed activities at Fort Greely.

Cumulative Impacts

Cumulative impacts are those that result when impacts of an action are combined with the impacts of past, present, and reasonably foreseeable future actions at a location. Cumulative impacts were considered for each resource area at each site. The resource areas with the most potential for cumulative impacts are discussed below.

Emissions produced during construction activities would add cumulatively to emissions from sources in the area, but these emissions would be temporary and are not anticipated to result in a measurable impact to air quality. In addition, the Draft C-17 Flight Training Areas EA for Elmendorf Air Force Base, Alaska includes potential training mission requirements of approximately 900 assault landings per year at Allen Army Airfield. The air emissions associated with these landings were calculated to be approximately 45 tons of oxides of nitrogen and 25 tons of carbon monoxide per year. These mobile source emissions from the C-17 aircraft would be intermittent and would be rapidly dispersed. Therefore, it is anticipated that proposed activities at the Allen Army Airfield, when combined with the emissions identified in the Draft C-17 Flight Training Areas EA, would not result in cumulative air quality impacts.

Biological impacts would include the loss of a small amount of low growing spruce forest habitat at Fort Greely. Given the small amount of loss of wildlife habitat in the region of Fort Greely from past and current development and the vast amount of undeveloped land in the area, the additional loss of habitat from the proposed installation would not result in a substantial cumulative reduction in habitat for wildlife use.

Noise impacts have been identified from potential C-17 flight training at Allen Army Airfield and potential Battle Area Complex operations east of Fort Greely. Possible planned activities at the Allen Army Airfield, identified in the Draft C-17 Flight Training Areas EA, include the potential for up to 900 assault landings per year on runway 06/24. Noise modeling contours for the C-17 would not impact any sensitive noise receptors on Fort Greely or in the off-base areas. Although there would be some potential for a slight increase in the combined noise contours, the noise levels would still not be expected to reach any sensitive noise receptors on Fort Greely or the off-base area; therefore, any cumulative impacts would not be significant.

Another potential for cumulative noise impacts was identified in the Draft Environmental Impact Statement (EIS) for the Construction and Operation of a Battle Area Complex and a Combined

Arms Collective Training Facility within U.S. Army Training Lands in Alaska. The EIS identifies proposed heavy weapons and demolition noise levels that could affect noise levels at Fort Greely. In the event that the Eddy Drop Zone is the selected Battle Area Complex alternative, peak noise levels from high-energy impulsive sounds could exceed a threshold for complaint potential. A moderate risk of complaints would occur at 115 decibels (dB). Based on modeling results in the EIS, approximately 10 to 30 percent of the time adverse weather conditions would result in the 115 dB threshold level extending over an area that includes much of the Fort Greely Cantonment Area and the Missile Field Complex Area. Therefore, the noise levels from the proposed construction activities in the Cantonment Area, when combined with the noise from selection of the Eddy Drop Zone as the proposed Battle Area Complex, could result in cumulative noise impacts. However, the Battle Area Complex noise would be short-duration impulse noise that would only occur during training exercises, several times per year.

Planned roadway upgrades and the proposed extension of the Alaska Railway system, expected to be completed within approximately 5 years, would help to offset the levels of roadway traffic leading to the installation and would result in a positive cumulative impact on transportation.

ACRONYMS AND ABBREVIATIONS

ACRONYMS AND ABBREVIATIONS

AAFES	Army and Air Force Exchange Service
AAQS	Ambient Air Quality Standards
AR	Army Regulation
AST	Aboveground Storage Tank
ADEC	Alaska Department of Environmental Conservation
CANOL	Canadian and American National Oil Line
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CRM	Cultural Resource Manager
dB	Decibel
dBA	A-weighted decibel
DNL	Day-Night Equivalent
DoD	Department of Defense
DSCS	Defense Satellite Communication System
EA	Environmental Assessment
ECP	Entry Control Point
EIS	Environmental Impact Statement
EPA	Environmental Protection Agency
°F	degrees Fahrenheit
GBI	Ground-Based Interceptor
GMD	Ground-Based Midcourse Defense
HVAC	Heating, Ventilation, and Air Conditioning
I3MP	Installation Information Infrastructure Modernization Program
ICRMP	Integrated Cultural Resources Management Plan
IDT	Interceptor Communications Data Terminal
IPMP	Integrated Pesticide Management Plan
IRP	Installation Restoration Program
µg/m ³	microgram per cubic meter
MDA	Missile Defense Agency
MW	megawatt
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act

NHPA	National Historic Preservation Act
NMD	National Missile Defense
NPDES	National Pollutant Discharge Elimination System
PCB	polychlorinated biphenyl
PM-2.5	particulate matter with a diameter less than or equal to 2.5 micrometers
PM-10	particulate matter with a diameter less than or equal to 10 micrometers
ppm	parts per million
ROD	Record of Decision
ROI	region of influence
SHPO	State Historic Preservation Officer
SOP	Standard Operating Procedures
SWPPP	Stormwater Pollution Prevention Plan
UST	Underground Storage Tank
VOC	Validation of Operational Concept

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1.0

PURPOSE AND NEED

1.0 PURPOSE AND NEED

1.1 INTRODUCTION

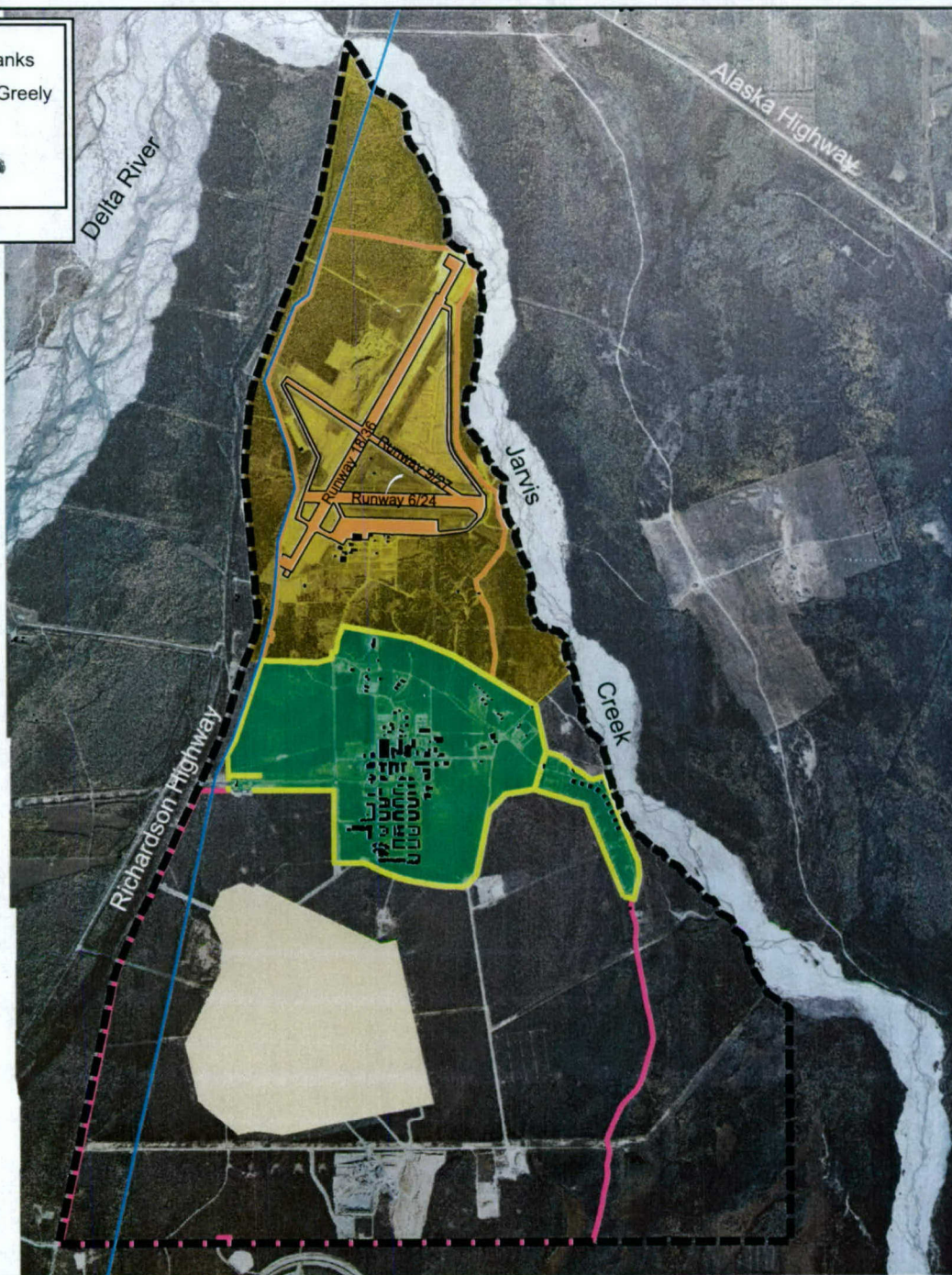
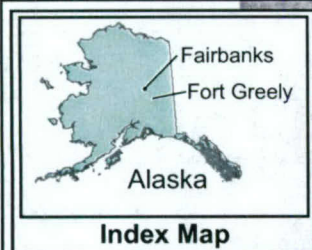
A number of future projects are planned for the Cantonment Area, Missile Field Complex Area, and Allen Army Airfield Area at Fort Greely that require documented environmental analyses. The Fort Greely Summary Development Plan, a variation of the Installation Master Plan endorsed by the U.S. Army Corps of Engineers, has been prepared in accordance with the current version of U.S. Army Regulation (AR) 210-20, *Master Planning for Army Installations*. In accordance with AR 200-2, *Environmental Effects of Army Actions*, an Environmental Assessment (EA) is required to analyze the potential impacts of implementing an installation Master Plan. In addition, resource management plans for Fort Greely require environmental analysis. This EA was prepared in accordance with the following regulations, statutes, and standards:

- National Environmental Policy Act (NEPA), 1969
- The President's Council on Environmental Quality (CEQ) Regulations for Implementing NEPA (40 Code of Federal Regulations [CFR] Parts 1500-1508), 2002
- Department of Defense (DoD) Instruction 4715.9, *Environmental Planning and Analysis*, May 1996
- AR 200-2, *Environmental Effects of Army Actions*, March 2002
- AR 200-4, *Cultural Resources Management*, October 1998
- AR 210-20, *Master Planning for Army Installations*, July 1993

1.2 BACKGROUND

Fort Greely is located approximately 100 miles south of Fairbanks, Alaska, just south of Delta Junction, Alaska. It is bounded on the west by the Richardson Highway (SH4), which connects Delta Junction with Valdez, and on the east by Jarvis Creek. Figure 1-1 shows the primary areas of activity on Fort Greely. The Alaska Highway, which is the only road that connects Alaska to the lower 48 states, is located just east of Jarvis Creek. Donnelly Training Area, run by the U.S. Army Alaska, borders the installation on all three sides. Allen Army Airfield is located in the northern part of Fort Greely. The Ground-Based Midcourse Defense (GMD) Missile Field is located in the southern third of the installation.

Fort Greely has undergone substantial change over the past decade. The Defense Base Closure and Realignment Act of 1990, as amended, authorized independent Presidential Base Realignment and Closure Commissions in 1991, 1993, and 1995 to review Secretary of Defense recommendations for base closures and realignments in those years. This process resulted in the realignment of Fort Greely. This realignment consisted of the relocation of the Headquarters, Northern Warfare Training Center and Headquarters, Cold Regions Test Center from Fort Greely to Fort Wainwright. Portions of these organizations remain in the Fort Greely vicinity at Black Rapids Training Center and Bolio Lake Test Facilities. The realignment of Fort



EXPLANATION

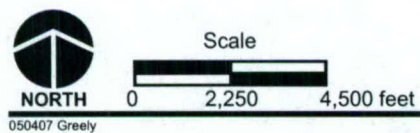
- Installation Boundary
- Buildings
- Airfield Fence
- Cantonment Fence
- Proposed Southern Boundary Fence
- Alyeska Pipeline

- Allen Army Airfield Area
- Cantonment Area
- Missile Field Complex Area

Fort Greely Area Map

Fort Greely, Alaska

Figure 1-1



Fort Greely Installation EA

Greely was completed on 17 July 2001, with the U.S. Army retaining some facilities to support the training areas and most of the facilities being excessed as unnecessary to support any DoD requirement. While Fort Greely was undergoing this realignment, it was also being considered by the Ballistic Missile Defense Organization, now Missile Defense Agency (MDA), as a potential location for construction of a Ground-Based Interceptor (GBI) site for the National Missile Defense (NMD) Program.

In July 2000, the *National Missile Defense (NMD) Deployment Environmental Impact Statement* (EIS) was completed to support decisions concerning deployment of an NMD system. Fort Greely was analyzed in the NMD Deployment EIS as a potential site for GBI silos and support facilities.

In August 2001, the Director of the MDA signed a Record of Decision (ROD) to implement limited site preparation activities that could support construction of facilities at Fort Greely. In accordance with NEPA, the DoD considered the information contained within the NMD Deployment EIS in deciding to initiate site preparation activities at Fort Greely.

On 2 January 2002, the Ballistic Missile Defense Organization was administratively realigned as the MDA, with the objective of developing an integrated ballistic missile defense system. The NMD system was renamed the GMD element of the ballistic missile defense system, with the focus of the program on more realistic testing.

In March 2002, the MDA prepared the *Ground-Based Midcourse Defense (GMD) Validation of Operational Concept (VOC) Environmental Assessment* to evaluate construction and ground testing of GMD components in a realistic environment, as well as specific siting for In-Flight Interceptor Communications Systems and fiber optic cable, and communication lines not evaluated in the NMD Deployment EIS. Based on its Finding of No Significant Impact from the analysis in the GMD VOC EA, the MDA decided to construct the VOC GBI test site at Fort Greely. In December 2002, the MDA subsequently completed the VOC Supplemental EA and resulting Finding of No Significant Impact to evaluate security fences for the cantonment area, southern boundary, and Allen Army Airfield and improvements to the runways and modifications to activities at Allen Army Airfield.

1.3 PURPOSE OF THE PROPOSED ACTION

The purpose of the Proposed Action is to fulfill the planning guidance provided by AR 210-20, *Master Planning for Army Installations*. AR 210-20 establishes a relationship between environmental planning and real property planning to ensure that environmental consequences of planning decisions are addressed. It also includes a requirement that NEPA will be integrated into the master planning process. As a component of the installation master plan, and in accordance with AR 200-4, *Cultural Resources Management*, it is recommended that an EA be prepared to implement Integrated Cultural Resource Management Plans (ICRMPs).

1.4 NEED FOR THE PROPOSED ACTION

The need for the Proposed Action is to:

- Provide an orderly management and development of real property assets, land use, and facilities and infrastructure in order to provide new and upgraded state-of-the-art, efficiently maintained facilities and infrastructure required to support the installation's critical missile defense test and operations mission
- Execute the ICRMP and the Integrated Pesticide Management Plan (IPMP) to satisfy statutory and regulatory requirements

1.5 DECISIONS TO BE MADE

Supported by the information and environmental impact analysis presented in this EA, the Fort Greely Garrison Commander would decide whether to implement the integrated planning process associated with the Summary Development Plan, ICRMP, and IPMP.

1.6 SCOPE OF THE ENVIRONMENTAL ASSESSMENT

This EA describes and analyzes the implementation of Fort Greely management plans, including the Fort Greely Summary Development Plan, ICRMP, and IPMP. This includes the analysis of approximately 30 planned construction and infrastructure improvement projects. Ongoing Installation Restoration Program (IRP) actions were also considered in the analysis.

Some of the projects identified in the Summary Development Plan have been analyzed in previous environmental documents. Appendix A includes a combined list of projects and identifies the NEPA document associated with each project.

1.7 RELATED ENVIRONMENTAL DOCUMENTATION

As appropriate, the conclusions of the following NEPA studies have been summarized and are included in this document:

- *National Missile Defense (NMD) Deployment Environmental Impact Statement* (July 2000)
- *Record of Decision (ROD) for Site Preparation Activities at the Ground-Based Midcourse Defense (GMD) Test Bed at Fort Greely, AK* (2001)
- *Ground-Based Midcourse Defense (GMD) Validation of Operational Concept (VOC) Environmental Assessment* (March 2002)
- *Ground-Based Midcourse Defense (GMD) Validation of Operational Concept (VOC) Supplemental Environmental Assessment* (December 2002)

- *Record of Decision (ROD) to Establish a Ground-Based Midcourse Defense (GMD) Initial Defensive Operations Capability at Fort Greely, AK (2003)*
- *Robin Road and Clearwater Avenue Extensions Environmental Assessment (July 2003)*
- *Fort Greely Borrow Pit Environmental Assessment (February 2004)*

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2.0

DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES

2.0 DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES

The Proposed Action under evaluation includes:

- Implementing the comprehensive planning process defined in the Fort Greely Summary Development Plan, including the proposed projects in the Cantonment Area, the Missile Field Complex Area, and the Allen Army Airfield Area
- Implementing the planning process defined in the ICRMP and IPMP
- Considering the IRP sites in environmental and master planning

As stated in chapter 1, some of the projects identified in the Summary Development Plan have been analyzed in previous environmental documents. The NMD Deployment EIS, the GMD VOC EA, and the VOC Supplemental EA analyzed projects located throughout Fort Greely. Some of the projects have been completed, some are in process, and others are waiting on funding. Appendix A includes a combined list of projects and identifies the NEPA document that includes the analysis for each project. In some cases the name of a proposed project or facility may have changed; however, the location, proposed activities, and analysis of potential impacts are still valid.

2.1 SUMMARY DEVELOPMENT PLAN

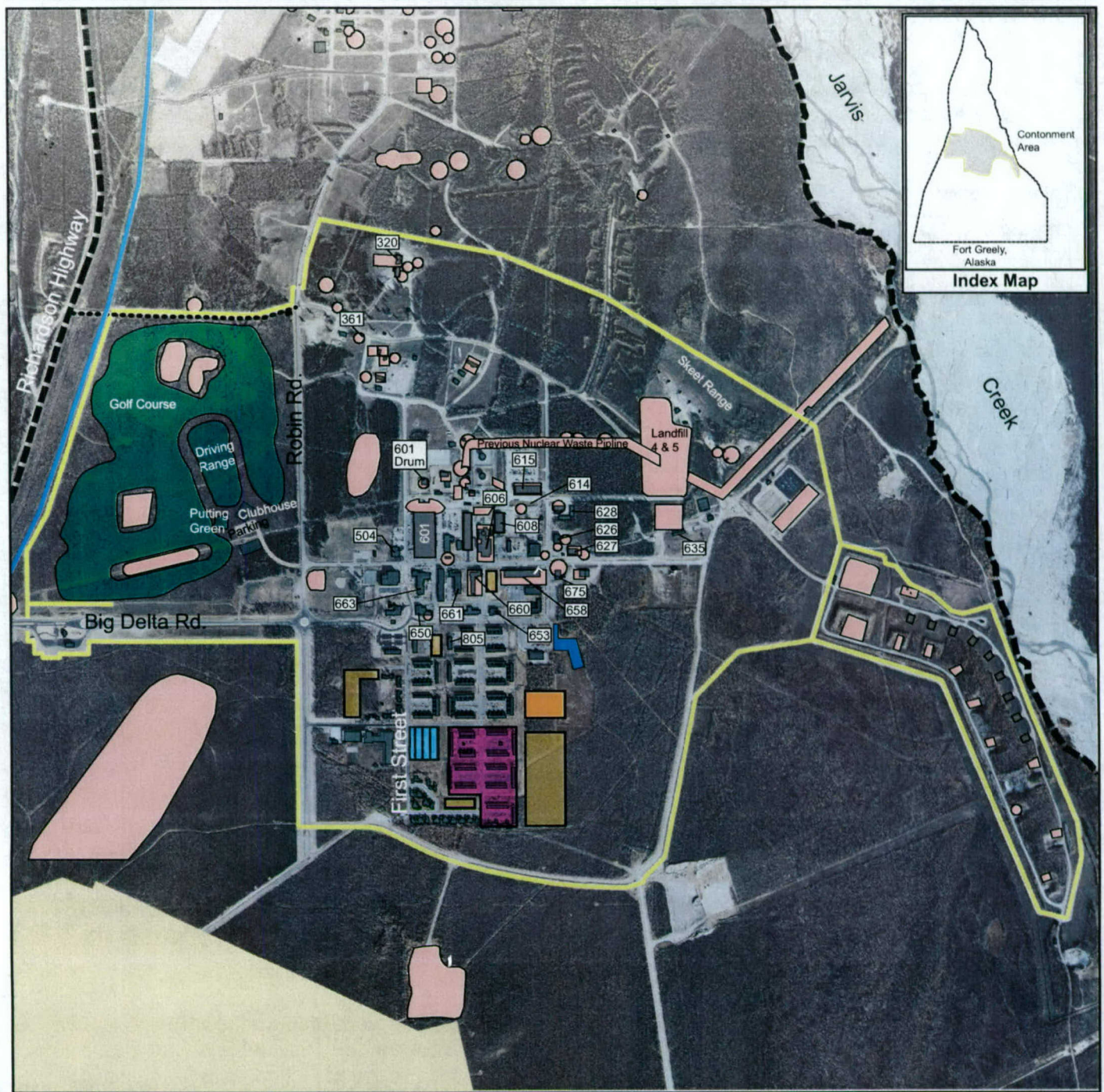
The Summary Development Plan was completed in September 2003 and includes the key components of a Real Property Master Plan. The purpose of the Summary Development Plan was to provide a vision to guide the reactivation of the new, realigned Fort Greely. The Summary Development Plan established the then-current state of the installation and provided a basis for future development decisions to achieve the installation's mission and support the U.S. Army and DoD.

The actions under the Summary Development Plan have been segregated into the three primary operational areas of the installation: the Cantonment Area, the Missile Field Complex Area, and the Allen Army Airfield Area. Within each area, the Proposed Action includes specific construction and repair projects and specific IRP sites and activities.

2.1.1 CANTONMENT AREA

The Cantonment Area (figure 2-1) contains the majority of the structures on the base. Key buildings shown in the figure are designated with building numbers.

In general, housing is located in the southern portion of the Cantonment Area; support, administrative, and light industrial uses are located in the central to northern portion; and heavy industrial uses are located to the north. The main entry road, Big Delta, is the primary east-west roadway. First Street is the primary north-south roadway within the Cantonment Area. Robin Road runs north to Allen Army Airfield and south to the Missile Field Complex.

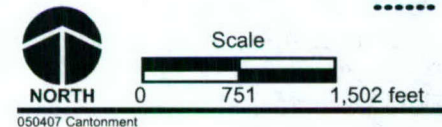


Cantonment Area

Fort Greely, Alaska

Figure 2-1

- EXPLANATION**
- Installation Boundary
 - Missile Field Complex
 - IRP Related Sites
 - Alyeska Pipeline
 - Buildings
 - Cantonment Fence
 - Proposed New Housing
 - Proposed Community Center
 - Proposed Golf Course
 - Proposed Demolition and Housing Construction
 - Proposed Demolition
 - Proposed Dog Park
 - Proposed Mid Post Road Repair



Fort Greely Installation EA

Table 2-1 lists projects in the Cantonment Area that are proposed for refurbishment and repair.

Table 2-1: Cantonment Area Buildings Refurbishment and Repair

Proposed Project	Proposed Location and Description	
	Location	Brief Description
New Barracks and Transient Housing	Building 660	The second and third floor would be repaired for barracks and all or a portion of the first floor would be transient housing
Exterior Repairs	Building 663	Exterior repairs
PX/Commissary Mall Complex	Building 601	Interior and exterior repairs
Additional Power Plant-Related Actions	Building 606	Heating, ventilation, and air conditioning (HVAC) upgrade, boiler upgrade, and feeder lines
Unaccompanied Non-Commissioned Officer (NCO) Housing	Building 805	Repair the building to provide quarters for eight unaccompanied NCOs with a detached garage building for each unit

Table 2-2 lists proposed projects in the Cantonment Area that would require new construction. Repair and construction projects include the following activities that would have the potential to affect the environment:

- For building repair projects
 - Removal of asbestos-containing materials
 - Removal of lead-based paints
 - Disposal of building debris
 - Disposal of hazardous materials and wastes
 - Trenching for utility installation or repair
 - Installation of new lighting
 - Repair or replacement of Underground or Aboveground Storage Tanks (USTs or ASTs)
- For new construction projects
 - Trenching for utility and communications lines
 - Clearing of trees and vegetation for new construction
 - Excavation for foundations, curbs, sidewalks, and other concrete work
 - Leveling of terrain for building sites, parking lots, and access drives
 - Contouring of construction sites to provide for proper drainage
 - Landscaping and planting of grass, shrubs, and trees
 - Installation of building, parking lot, and street lighting
 - Installation of wastewater and sewer systems
 - Installation of ASTs
 - Installation of new fencing

Table 2-2: Cantonment Area New Construction

Proposed Project	Proposed Location and Description	
	Location	Brief Description
Unaccompanied Officer Personnel Housing	Where Building 659 used to be	Construct unaccompanied officer housing units
Consolidated Community Center	Immediately south of the current Chapel complex	Construct a new community center to include a library, learning resource center, bowling center, skill development center, youth activities center, recreation center, snack bar, and supporting areas. Supporting facilities include utilities, steam and condensate lines, utilidor, communications, paving, sidewalks, storm drainage, and site improvements. Access for the handicapped is included. The building would be approximately 31,000 square feet.
Family Housing Units	East of existing 800 series housing (45 units); north of 942 (8 units); west of 707 (8 units); would require clearing of trees	61 Family Housing Units—Construction would consist of variously configured multi-unit two story buildings. Dwelling units would be conventionally built, on-site constructed houses. The design would include wood-frame construction with pre-finished siding, central heating, appliances, hard-wired interconnected smoke detectors, landscaping, streets, driveways, carports, exterior storage, and street lighting. Utility services, utilidor, recreational park areas, and walkways would also be provided. At least five percent of the quarters would be constructed such that they would be accessible and easily modifiable to accommodate the requirements of the handicapped.
Family Housing Units	800 and 900 series housing	Demolition of buildings 850, 851, 852, 853 for green space Demolition of 854, 855, 856, 857, 862, 863, 864, 875, 876, 877, 878, 887, 888, 889, 950, 951, 952, 953, 954, and 955 and construction of new family housing units as described above
Central Receiving Facility	Unknown	Not yet defined
Relocation of Army Air Force Exchange Service Gas Pump	To Building 504	Not yet defined
Golf/Driving Range/Ski Trail/Clubhouse	Proposed Northwest from the corner of Robin Road and Big Delta Road	Awaiting funds to start design
Archery Range	Near Skeet Range	Not yet defined
Barber/Beauty Shop	Building 653	Interior modifications
Pet Boarding Facility	Unknown	Facility to drop off pets
Dog Park	East of Building 847	One acre park located east of the Chapel and Child Care
Dog Kennel for Dept. of Army (DA) Police	Proposed near Building 320	Kennel to hold six to eight police dogs
Hazardous Materials Storage Building	Next to Building 635	Construct a warehouse storage facility to store Hazmat material

Table 2-2: Cantonment Area New Construction (Continued)

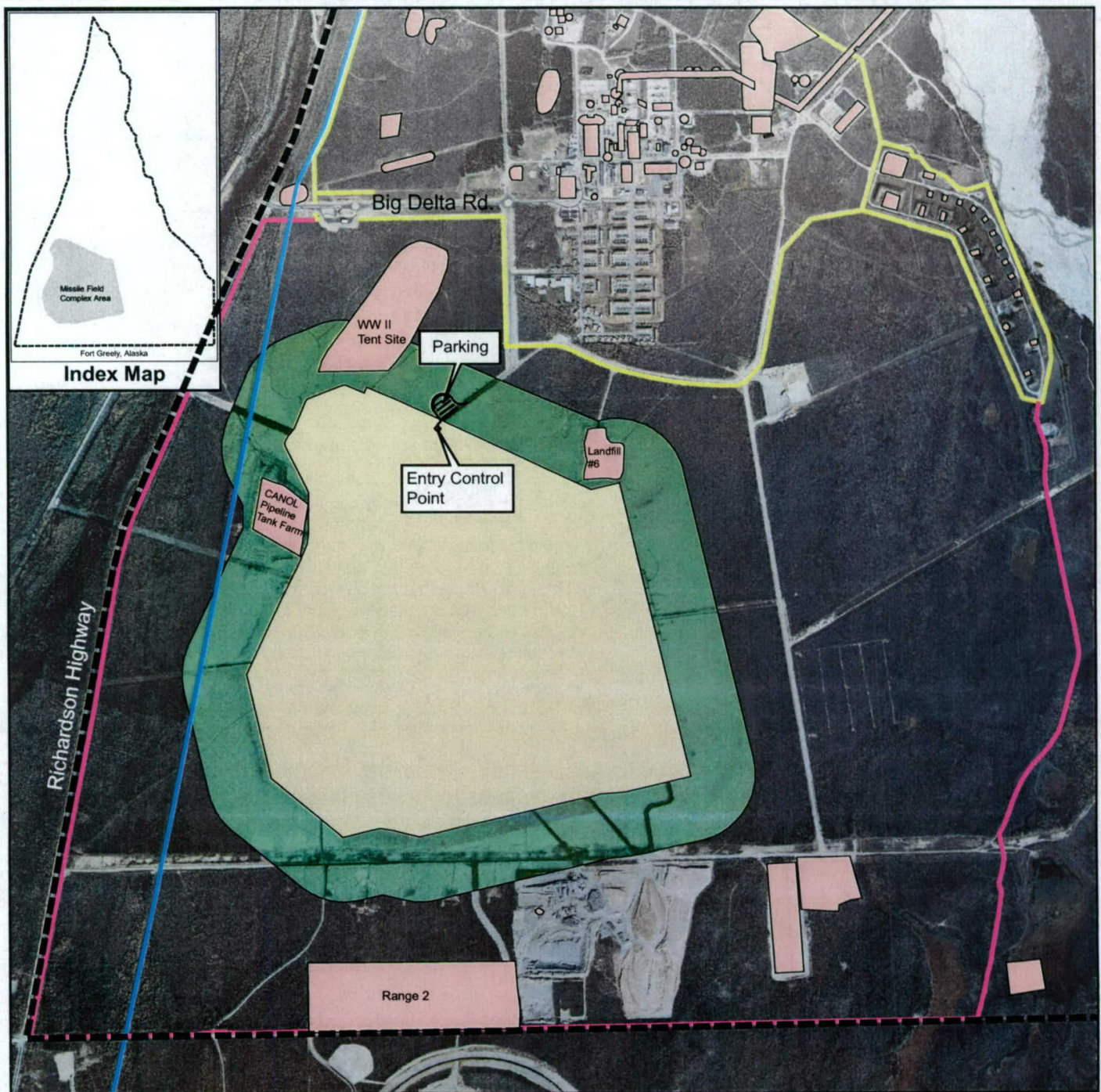
Proposed Project	Proposed Location and Description	
	Location	Brief Description
Transient Facility	Unknown	Not yet defined
Outdoor Playground	Proposed between Buildings 875 and 835 or between Buildings 864 and 900 series housing	A package playground set that would cover a small area in the housing developments
Indoor Inline Skating Rink/Playground	Unknown	Construct 62,000-square-foot indoor inline skating rink
Campground	Next to Skeet Range	Provide a location to set up a few camp sites for the summer months
Installation Information Infrastructure Modernization Program (I3MP)	Throughout Cantonment Area along existing roads and right-of-ways	I3MP is the initiative to upgrade the information infrastructure at Army installations. The major components of the I3MP would include telephone modernization, outside cable rehabilitation, Army router, common user installation transport network, and telecommunications synchronization. Construction would include digging, trenching, and other ground disturbances. A new switching building associated with I3MP is currently under construction.
Repair Mid-Post Road	Richardson Highway to Robin Road	Upgrade the existing unimproved road to allow a separate access to Fort Greely; access gate only, no entry control point

Because the Summary Development Plan is a planning document, a number of the projects are not well defined. For these projects, and for other as yet undefined projects, it is assumed that construction would include activities similar to those listed above. Once the locations are determined, then an environmental review of the specific location would be performed and, if necessary, supplemental environmental documentation would be prepared.

The IRP has identified a number of areas with documented contamination. Careful consideration would be taken when excavating in these areas. The Directorate of Public Works Environmental Office would review all excavation clearance requests and would issue appropriate controls, which have been approved by the United States Environmental Protection Agency (EPA) and Alaska Department of Environmental Conservation (ADEC), and warnings for any trenching or digging activities.

2.1.2 MISSILE FIELD COMPLEX AREA

The GMD Missile Field Complex Area is located in the southern portion of Fort Greely (figure 2-2). The Missile Field Complex Area supports the MDA's Limited Defensive Operations, which will include up to 40 silos equipped with GBIs and associated support facilities/functions. These support facilities/functions include communication nodes, security fencing, In-Flight Interceptor Communications System Data Terminals (IDTs), fuel storage, interceptor storage, missile assembly, power generators, readiness and control, entry control, and utilities.



EXPLANATION

- Missile Field Complex
- Clearance Area
- IRP Related Sites
- Installation Boundary
- Cantonment Fence
- Proposed Southern Boundary Fence

Alyeska Pipeline

Missile Field Complex Area

Fort Greely, Alaska

Figure 2-2



Scale
0 1,079 2,159 feet

050408 Missile Field

Fort Greely Installation EA

Many of the Missile Field Complex Area projects have similar activities that would have the potential to affect the environment. These activities are as follows:

- Trenching for utility and communication lines
- Clearing for security fencing or security zones
- Potential disturbance of IRP sites during creation of security zones
- Installation of fencing
- Excavation for foundations, curbs, sidewalks, and other concrete work
- Leveling of terrain for building sites, parking lots, and access drives
- Contouring of construction sites to provide for proper drainage
- Landscaping and planting of grass, shrubs, and trees
- Installation of building, parking lot, street, and security lighting
- Installation of wastewater and sewer systems
- Installation of ASTs

Table 2-3 lists the proposed new construction at the Missile Field Complex Area.

Table 2-3: Missile Field Complex Area New Construction

Proposed Project	Proposed Location and Description	
	Location	Brief Description
Additional Clearing	Around perimeter fence	Additional 935 feet of land clearing around the Missile Field Complex Area perimeter fence as part of the Robust Security Planning (for a total of 518 acres of clearing)
Entry Control Point	At fence on Robin Road	The primary entry point for the Missile Field Complex; personnel entry and a processing station where interceptor missiles and other sensitive items undergo a security inspection before they are brought into the Missile Field Complex Area
Civilian Administration Facility	Not defined	Administrative office space
Storage Facility	Building 670 or new facility in Missile Field Complex Area	Vehicle storage, maintenance, and general storage
GMD Defense Satellite Communication System (DSCS) Radome and Backup Power Generator	Within Missile Field Complex Area	Replace DSCS 1 Backup generator; Install second DSCS Radome. (Includes construction of concrete pads; DSCS 2 backup generator; relocation of existing fuel tank; relocation of existing fencing; utility and fiber optic cable trenching on the DSCS site, and to the DSCS site)
GMD Southern Boundary Fence	As shown on figure 2-2, South from Big Delta Road along Richardson Highway then east along the southern boundary of Fort Greely, then north to the Cantonment Area fence	Install security fence along existing roadways. The alternative alignments covered in the VOC Supplemental EA did not include fencing along the Richardson Highway.

The 49th Missile Defense Battalion (GMD) upgraded its security requirements, which necessitates the clearing of trees to allow for an exclusion zone outside of the Missile Field Complex security fence. The security fence around the Missile Field Complex Area currently has a 50-foot cleared area. The new enhanced security requires an additional 935 feet of tree clearing around the perimeter fence, for a total of 518 acres of clearing.

The trees would be cleared using a Hydro-axe, also known as a Hydro-mower. The Hydro-axe is an articulated tractor with a mower-mulcher mounted on the front of the machine (figure 2-3). The mulch creates a protective vegetation layer for the rubber tire tractor to travel over. At a width of 8 to 9 feet, the mower-mulcher clips and mulches plant debris from 4 to 10 inches above ground. The Hydro-axe also has the potential to disturb the soil below the surface as smaller root systems are pulled up and mulched. This method is effective for stem diameters up to 8 inches.



Figure 2-3: Hydro-Axe Machine

The additional land clearing around the perimeter fence has the potential to impact three IRP sites. Figure 2-2 shows the proposed clearing around the Missile Field fence and the locations of the three IRP sites. Careful consideration would be taken when excavating in this area. The Department of Public Works Environmental Office would review all excavation clearance requests and would issue appropriate controls, which have been approved by EPA and ADEC, and warnings for any trenching or digging activities.

For areas that have not been surveyed for cultural resources, protection of these resources prior to ground disturbing activities would be ensured by an archeological site survey of the project areas by a trained archaeologist. Presently, a comprehensive archeological survey is planned to begin in May 2005.

The Entry Control Point (ECP) consists of a 2,000-square-foot building, which would be located on the road right-of-way, and a 400- by 400-foot parking area adjacent to the Missile Field Complex Area (figure 2-2). The ECP would also include a water supply well and a wastewater system. Existing fencing would have to be relocated to accommodate the new location of the ECP building and parking lot.

2.1.3 ALLEN ARMY AIRFIELD AREA

The Allen Army Airfield Area is located in the northern portion of Fort Greely and encompasses approximately 1,760 acres. Approximately 1,155 acres are within the Allen Army Airfield fence. The Airfield consists of three active, paved runways: runway 18/36 is 9,000 feet long by 150 feet wide, runway 9/27 is 6,120 feet long by 150 feet wide, and runway 6/24 is 4,647 feet long by 150 feet wide. The Airfield includes approximately 37,600 square feet of hangar space and approximately 920,000 square feet of ramp space. Hangar, aircraft parking, and Airfield support

facilities are on the south side of the airfield. Figure 2-4 shows the configuration of the Allen Army Airfield Area.

Table 2-4 lists the proposed activities in the Allen Army Airfield Area.

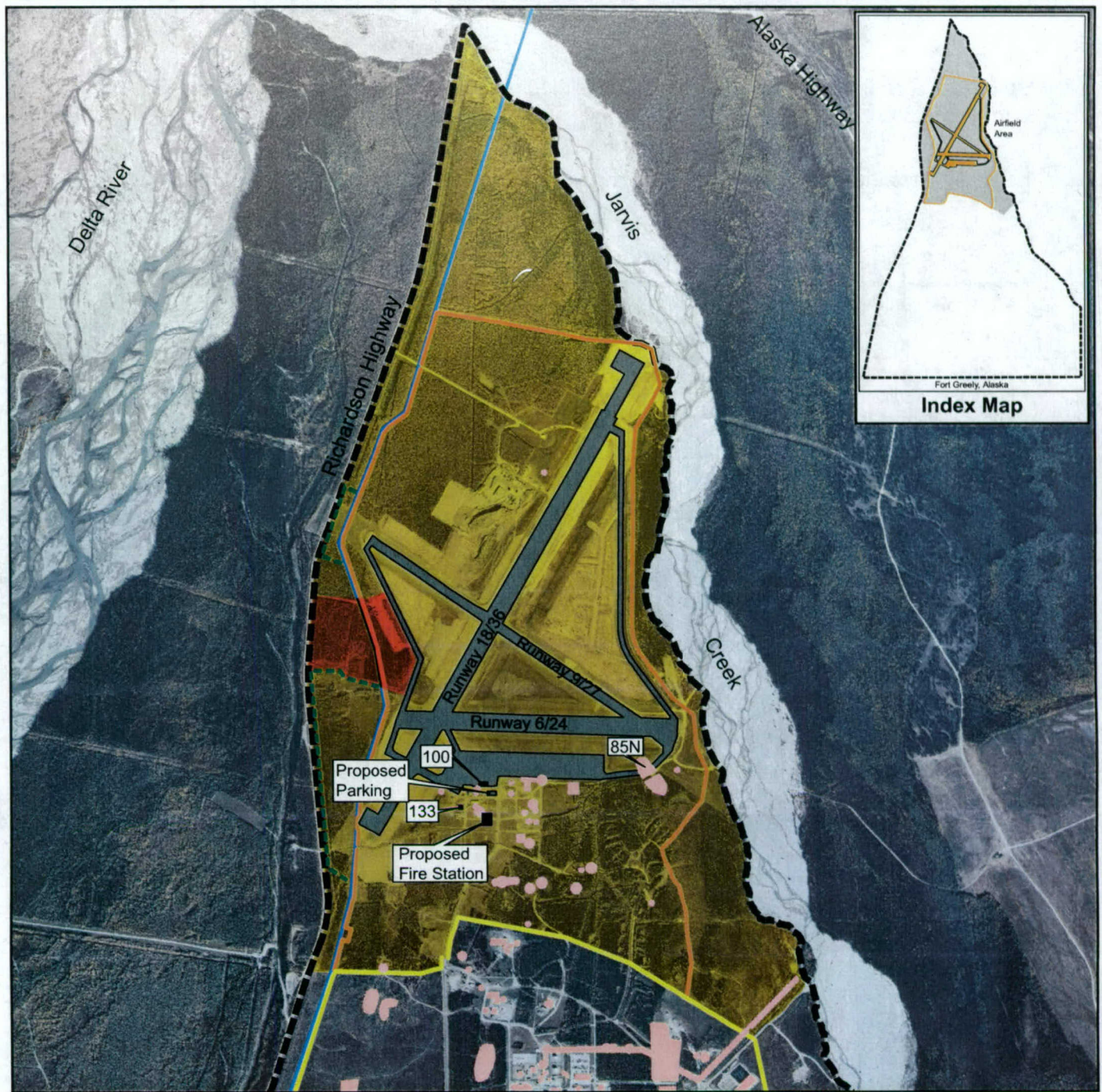
Table 2-4: Proposed Activities, Allen Army Airfield Area

Proposed Project	Proposed Location and Description	
	Location	Brief Description
Additional Land Clearing, Fencing, Reduction of High Spots, Removal of Obstructions	Airfield Perimeter	Additional land clearing and earth moving is required for airfield security. Additional fencing for runway clear zones
Runway, Taxiway and Parking Apron Pavement and Lighting	Runways, Taxiways and Parking Apron	Repairs and upgrades to the existing runways, parking apron, taxiways, additional taxiway lighting
Instrument Landing System	Runway 9/27 and 18/36	Install instrument landing equipment
Expand Electrical Vault	Building 133	Expand to accommodate additional airfield lighting
Hanger Parking Lot	South of Building 100	New parking area south of existing hangar (Building 100)
Fire Station	South of 110 Site	Build new fire station to support increased runway activity
Joint Use of Allen Army Airfield	West of runways	Public Terminal, parking, Flight Service office, direct access to Richardson Highway, fencing

Joint use of the Allen Army Airfield could include the construction of a public terminal, parking, a Flight Service office, additional security fencing, and direct access to Richardson Highway. At this time, specific site layout and operations information is not available. For analysis purposes, it is estimated that the proposed joint use could increase the level of flight activities, up to an additional 40 flights per week. Fueling and fuel storage requirements are not known at this time. Figure 2-4 identifies the location of the proposed joint use area.

Many of the projects in the Allen Army Airfield Area have similar activities that would have the potential to affect the environment as follows:

- For building repair projects
 - Removal of asbestos-containing materials
 - Removal of lead-based paints
 - Disposal of building debris
 - Disposal of hazardous materials and wastes
 - Trenching for utility installation or repair
 - Installation of new lighting
 - Repair or replacement of USTs or ASTs to support fueling



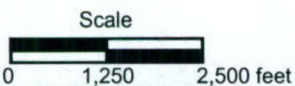
EXPLANATION

- Installation Boundary
- Allen Army Airfield Pavement
- IRP Related Sites
- Airfield Fence
- Cantonment Fence
- Proposed Airfield Fence
- Alyeska Pipeline

- Airfield Area
- Potential Joint Use Area



NORTH



050407 Airfield 2

Allen Army Airfield Area

Fort Greely, Alaska

Figure 2-4

Fort Greely Installation EA

- For new construction projects
 - Trenching for utility and communications lines
 - Clearing of vegetation for new construction, fencing, or airfield clear zones
 - Excavation for foundations, curbs, sidewalks, and other concrete work
 - Leveling of terrain for clearance areas, building sites, parking lots, and access drives
 - Contouring of construction sites to provide for proper drainage
 - Landscaping and planting of grass, shrubs, and trees
 - Installation of building, parking lot, and street lighting
 - Installation of wastewater and sewer systems
 - Installation of ASTs
 - Installation of new fencing

Several IRP sites have been identified in the Allen Army Airfield Area (figure 2-4). On-going data collection and remediation activities will be coordinated with Allen Army Airfield planning activities. Careful consideration would be taken when excavating in the vicinity of IRP sites. The Directorate of Public Works Environmental Office would review all excavation clearance requests and would issue appropriate controls, which have been approved by EPA and ADEC, and warnings for any trenching or digging activities.

2.2 INTEGRATED CULTURAL RESOURCE MANAGEMENT PLAN

AR 200-4, *Cultural Resources Management*, requires each U.S. Army installation to prepare an ICRMP to manage the historic and archaeological resources on Army lands. The ICRMP provides guidance on how to comply with various cultural resources federal laws and regulations, with emphasis on the National Historic Preservation Act (NHPA) of 1966, as amended. The ICRMP includes chapters on the following topics:

- Geographic Overview of the Fort Greely Region
- Prehistoric and Historic Overview of the Fort Greely Area
- Legal Foundation and Methodology for the ICRMP
- Standard Operating Procedures (SOPs) for:
 - Compliance with Section 106 of the NHPA
 - Compliance with the Archaeological Resources Protection Act of 1979
 - Accidental Discovery of Archaeological Materials
 - Compliance with the Native American Graves Protection and Repatriation Act of 1990
 - Curation of Artifacts
 - Cultural Resources Contracting
 - Archaeological Site Disclosure
 - Maintenance and Repair of Historic Properties
 - Interaction with the Public and Interested Parties including Native Alaskan Tribes

- Cultural Resources Inventory
 - Description and evaluation of previous historic and prehistoric surveys
 - Listing of known historic and prehistoric properties on Fort Greely
- Implementing the ICRMP

Army Regulation 200-4 requires a supporting NEPA analysis and documentation for the ICRMP. The NEPA process allows a public review of the procedures for protection of cultural resources and compliance with historic preservation laws at Fort Greely. The ICRMP is included in this document as appendix D; however, information on specific locations of the archaeological sites at Fort Greely has been removed. This omission is in compliance with 36 CFR 800.11, pursuant to Section 304 of the NHPA. Maintaining the confidentiality of the archeological site locations would prevent unauthorized disturbance or unauthorized artifact collection of Native Alaskan resources.

2.3 INTEGRATED PESTICIDE MANAGEMENT PLAN

The IPMP provides guidance for maintaining an effective pest control program for the Fort Greely installation, to protect health, the environment, and property. The plan stresses the integrated approach hierarchy of proactive surveillance and non-chemical control methods, lower-toxicity chemical use, and lowest effective chemical quantity use to achieve effective pest control with minimal environmental impact (see appendix E).

The IPMP addresses pesticide management selection, purchase, transport, storage, handling, use, spill control, waste minimization, and disposal. It covers seven categories of significant pests:

- Disease vectors and medically important arthropods (filth flies, bees, wasps, spiders, mites, lice, and fleas)
- Stored product pests (moths, weevils, and beetles)
- Real property pests (carpenter ants and wood-destroying fungi)
- General household and nuisance pests (cockroaches, silverfish, mosquitoes, gnats, and biting flies)
- Miscellaneous animal pests (squirrels, voles, mice)
- Undesirable vegetation (weeds, grasses, and brush)
- Pests of trees and ornamental vegetation (insects and aphids)

Army Regulation 200-2 (32 CFR Part 651.22), *Environmental Effects of Army Actions*, requires that this IPMP be analyzed under NEPA. This regulation allows a public review of the procedures for proper use, storage, transport, and disposal of pesticides at Fort Greely.

2.4 NO-ACTION ALTERNATIVE

Under the No-action Alternative, the proposed projects would be carried out without the benefit of the comprehensive planning process defined in the Summary Development Plan, ICRMP, and IPMP. New projects would be evaluated under NEPA on an individual basis. Potential impacts to cultural resources would be evaluated through consultation under Section 106 of the National Historic Preservation Act on a case-by-case basis. However, without the ICRMP, procedures for integrating Section 106 requirements with installation-wide planning would not be standardized.

Activities previously identified and analyzed in other documents would be executed as planned and the IRP actions would continue, without consideration of the Summary Development Plan, ICRMP, or IPMP.

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3.0

AFFECTED ENVIRONMENT

3.0 AFFECTED ENVIRONMENT

This chapter describes the environmental characteristics that may be affected by the Proposed Action. The information provided serves as a baseline from which to identify and evaluate environmental changes resulting from implementing the Fort Greely Summary Development Plan, ICRMP, and IPMP, as well as consideration of the IRP during implementation of these plans. To provide a baseline point of reference for understanding any potential impacts, the affected environment is briefly described.

Available reference materials, including EAs, EISs, RODs, archeological surveys, Integrated Natural Resources Management Plan, air quality permit, monitoring programs, and existing environmental standards, procedures, and plans, were acquired to assist in the description of the affected environment. To fill data gaps (questions that could not be answered from the literature) and to verify and update available information, installation and facility personnel; federal, state, and local regulatory agencies; and private individuals were contacted.

Environmental Resources

Fourteen areas of environmental consideration were evaluated to provide a context for understanding the potential effects of the Proposed Action and to provide a basis for assessing the severity of potential impacts. These areas included air quality, airspace, biological resources, cultural resources, geology and soils, hazardous materials and waste, health and safety, land use, noise, socioeconomics, transportation, utilities, water resources, and environmental justice.

Airspace resources are not expected to be affected sufficiently to warrant further discussion in this section and were eliminated from further analysis. Modifications to activities at Allen Army Airfield, including the addition of an ASR-11 or similar type airport surveillance radar, the addition of Class D airspace to the existing Class E controlled airspace, and the construction and activation of a control tower, were addressed in the GMD VOC Supplemental EA. These upgrades would minimize any potential impacts on airspace from the joint use of Allen Army Airfield. When specific information is available regarding the number of flights per day it will be compared to the transportation section of this EA. If there is a significant increase above the number used in this EA then an additional environmental review related to airspace would be performed.

3.1 AIR QUALITY

Air quality in a given location is described by the concentrations of various pollutants in the atmosphere, expressed in units of parts per million (ppm) or micrograms per cubic meter ($\mu\text{g}/\text{m}^3$). Pollutant concentration is determined by the type and amount of pollutants emitted into the atmosphere; the physical characteristics, including size and topography of the affected air basin; and meteorological conditions related to prevailing climate. The significance of a pollutant concentration is determined by comparison with National Ambient Air Quality Standards (NAAQS) and state ambient air quality standards (AAQS) that establish limits on the maximum allowable concentrations of six pollutants to protect public health and welfare. These pollutants include carbon monoxide, lead, oxides of nitrogen, ozone, particulate matter (with a

diameter less than or equal to 10 micrometers [PM-10] and with a diameter less than or equal to 2.5 micrometers [PM-2.5]), and sulfur dioxide.

According to EPA regulations, an area with air quality better than the NAAQS is designated as being in attainment; areas with worse air quality are classified as nonattainment areas. A nonattainment designation is given to a region if the primary NAAQS for any criteria pollutant are exceeded at any point in the region for more than 3 days during a 3-year period. Pollutants in an area may be designated as unclassified when there is insufficient data for the EPA to determine attainment status.

Alaska has established AAQS, which include additional standards for sulfur dioxide, reduced sulfur and ammonia. Emissions of air pollutants from operations in Alaska are limited to the more restrictive standard (federal or state). Table 3-1 compares NAAQS and Alaska AAQS.

Table 3-1: National Ambient Air Quality Standards and Alaska Ambient Air Quality Standards

		National Standards	Alaska Standards
Ozone	8-hour average	0.08 ppm	None
	1-hour average	0.12 ppm	0.12 ppm
Carbon Monoxide	8-hour average	9.0 ppm	9.0 ppm
	1-hour average	35.0 ppm	35.0 ppm
Nitrogen Dioxide	Annual average	0.053 ppm	0.053 ppm
Sulfur Dioxide	Annual average	0.03 ppm	0.02 ppm
	24-hour average	0.14 ppm	0.10 ppm
	3-hour average	0.5 ppm	0.5 ppm
Lead	Calendar quarter	1.5 µg/m ³	1.5 µg/m ³
PM-10	Annual average	50 µg/m ³	50 µg/m ³
	24-hour average	150 µg/m ³	150 µg/m ³
PM-2.5	Annual average	15 µg/m ³	None
	24-hour average	65 µg/m ³	None
Reduced Sulfur ⁽¹⁾	30-minute average	None	0.02 ppm
Ammonia	8-hour average	None	3.0 ppm

Source: Alaska Department of Environmental Conservation, 2004

(1) Measured as sulfur dioxide

µg/m³ = micrograms per cubic meter

PM-2.5 = particulate matter with a diameter less than or equal to 2.5 micrometers

PM-10 = particulate matter with a diameter less than or equal to 10 micrometers

ppm = parts per million

Region of Influence

The region of influence (ROI) for air quality would include the air basin surrounding the areas in which the Proposed Action would take place, including the Cantonment Area, Missile Field Complex Area, and the Allen Army Airfield Area.

Affected Environment

Climate

Fort Greely is located in the interior of Alaska and experiences seasonal extremes. The average low temperature in January is -11 degrees Fahrenheit (°F). The average high during July is 69°F. Temperature extremes ranging from a low of -63 to a high of 92°F have been recorded. (State of Alaska, Department of Commerce, Community, and Economic Development, 2004)

Prevailing winds are from the east-southeast September through March; from the west in April; from the southwest in May, June, and July; and from the south in August. The average annual precipitation is 11.1 inches, with an average annual snowfall of 40.5 inches. (Delta Junction, Alaska's Friendly Frontier, 2004)

Regional Air Quality

Principal sources of air pollution in the Fort Greely area are from limited traffic and fuels burned for heat and/or power. The Fort Greely area is in attainment for all NAAQS and Alaska AAQS.

Pollutants from mobile sources, such as automobiles and construction equipment, include hydrocarbons, carbon monoxide, nitrogen oxides, and particulate emissions. The primary pollutant of concern from mobile sources in Alaska is carbon monoxide. Cold starts during moderately cold weather, prolonged idling periods, and low-level temperature inversions all contribute to pronounced air quality impacts from motor vehicle emissions in cold climates.

Existing Emission Sources

Fort Greely has major emissions sources from boilers, generators, storage tanks, standby pumps, and prescribed burning/firefighter training. Fort Greely currently maintains an Air Quality Operating/Construction Title V Air Permit with ADEC. This permit was issued 14 November 2003, revised 30 December 2004, and expires 31 December 2008. Table 3-2 lists what are considered emission units at Fort Greely, and table 3-3 lists the estimated annual emissions for Fort Greely under the Air Quality Operating/Construction Title V Air Permit. Also listed in table 3-3 are the interim operation levels expected during construction at the Missile Field Complex Area, this level includes the previously granted 3 June 2004 construction permit. The final listing in table 3-3 is of permanent operations once construction has been completed. These levels are based on Fort Greely's physical/operational design, continual operations of sources within Fort Greely for 24 hours a day, 365 days a year, and are based on limits requested by Fort Greely. (Alaska Department of Environmental Conservation, 2004)

Table 3-2: Fort Greely Emission Units Inventory

Location	Number	Rating/Size
<i>Liquid Fuel-Fired Boilers</i>		
Building 101	2	8.37 MMBtu/hr
Building 606	2	57.9 MMBtu/hr
Building 606	1	67.3 MMBtu/hr
Utility Building	3	8.37 MMBtu/hr
<i>Liquid Fuel-Fired Emergency Power Generator Sets</i>		
FAA	1	635 hp
Building 501	1	310 hp
Building 501	1	160 hp
Building 606	3	1,440 hp
Building 606	2	1,765 hp
Mechanical/Electrical Building	1	1,495 hp
Readiness & Control	1	1,495 hp
Interceptor Storage	1	150 hp
Missile Assembly Building	1	743 hp
In-Flight Interceptor Communications System Data Terminal	1	645 hp
Water Supply	1	1,495 hp
Defense Satellite Communication System	1	474 hp
Interim Power Facility	4	2,636 hp
Power Plant	8	2,636 hp
<i>Standby Pumps</i>		
Building 133	1	100 hp
Building 606	3	100 hp
Building 625	1	100 hp
<i>MSW Combustors</i>		
Mid-post open burn pit	1	NA
Mid-post incinerator	1	4 tpd

Source: Alaska Department of Environmental Conservation, 2004

MMBtu/hr = million British Thermal Units per hour

hp = horsepower

tpd = tons per day

Table 3-3: Projected Allowable Emissions ⁽¹⁾
(tons per year)

Contaminant	Oxides of Nitrogen	Carbon Monoxide	PM-10	Oxides of Sulfur	Volatile Organic Compounds	Hazardous Air Pollutants
Estimated Annual Emissions ⁽²⁾	190	83	11	83	11	<1
Interim Operations	228	70	12	91	6	2
Permanent Operations ⁽³⁾	199	80	12	97	9	2

Source: Alaska Department of Environmental Conservation, 2004

(1) = Adapted from the Final Technical Analysis Report for Air Quality Construction Permit (No. 238CP03), 2 November 2004

(2) = Based on estimated emissions from the existing Title V permit, prior to the 30 December 2004 revision

(3) = Includes source(s) which may cease to operate during permanent operations

PM-10 = particulate matter with a diameter less than or equal to 10 micrometers

Fort Greely is not classified as a Prevention of Significant Deterioration (PSD) Major source because the facility is limited to less than 250 tons per year of each regulated air contaminant.

3.2 BIOLOGICAL RESOURCES

Existing information on plant and animal species and habitat types in the vicinity of the proposed sites was reviewed, with special emphasis on the presence of any species listed as threatened or endangered by federal or state agencies, to assess their sensitivity to the effects of the Proposed Action. For the purpose of discussion, biological resources have been divided into the areas of vegetation, wildlife, threatened and endangered species, and environmentally sensitive habitat.

Region of Influence

The ROI for biological resources includes the area within and immediately adjacent to areas on Fort Greely, such as the Cantonment Area, Missile Field Complex Area, and the Allen Army Airfield Area, that could potentially be affected by the proposed activities.

Affected Environment

Vegetation

In June 1999, a wildfire burned through the area, destroying much of the vegetation within Fort Greely. Consequently, the habitat types in the burned areas are now in an early successional stage consisting mostly of bare soil, grasses, and young trees. The predominant vegetation on Fort Greely and the adjacent region is low growing spruce forest, which is common throughout Interior Alaska. Lowland black spruce interspersed with heath bog communities covers a large portion of Fort Greely. Dominant tree species are black spruce, aspen, and balsam poplar. The understory and groundcover consist of mountain cranberry and bog blueberry, marsh labrador tea, crowberry, and a variety of mosses and lichens. (U.S. Army Garrison Alaska, 2003)

Cantonment Area. Native vegetation was removed from most of the Cantonment Area during the 1950s. A few isolated pockets of forest remain, particularly north of Big Delta Road and east of the housing area.

Missile Field Complex Area. The Missile Field Complex Area has been cleared of vegetation. Most of the area surrounding the Missile Field Complex Area is low growing spruce forest.

Allen Army Airfield Area. Native vegetation was removed during original construction of the airfield and its facilities. The remaining vegetation is maintained by mowing. A few isolated pockets of forest remain, particularly north and west of the airfield.

Wildlife

Common big game species in the area include black bear, grizzly bear, wolf, moose, bison, and barren ground caribou. Fenced areas on the installation are not considered viable habitat for these big game species. Within the current Fort Greely boundary, moose is the most common big game species. (U.S. Army Garrison Alaska, 2003) Fort Greely falls within the Alaska Department of Fish and Game, Game Management Unit 20D, which has approximately 5,633 square miles (3.6 million acres) containing an estimated 4,956 to 6,704 moose, or 0.9 to 1.2 moose per square mile. According to the Alaska Department of Fish and Game (Ihlenfeldt, 2002), only one-third of Fort Greely contains quality moose habitat of about 2,400 acres. Fort Greely thus contains a small percentage of the available habitat for moose in the region. The available habitat is further reduced by installation fencing.

Cantonment Area. Wildlife usage of the Cantonment Area and similarly developed areas include small rodents, ground squirrels, and bats. Moose and other big game species also occasionally use these areas. Birds occurring within the ROI include the common raven, willow ptarmigan, rock ptarmigan, spruce grouse, ruffed grouse, owls, and a variety of songbirds. (U.S. Army Garrison Alaska, 2003)

Missile Field Complex Area. The Missile Field Complex Area is fenced and contains little if any wildlife. The area around the Missile Field Complex Area is not fenced and moose and other big game species occasionally use this area. Birds are as described above in the Cantonment Area.

Allen Army Airfield Area. As discussed in the Cantonment Area section, wildlife usage within the airfield fence is limited mainly to small rodents, ground squirrels, bats, and birds. The area around the airfield fence is used occasionally by moose and other big game species.

Threatened and Endangered Species

No federally proposed or listed threatened, endangered, or candidate plant species are found in interior Alaska.

No known threatened, endangered, or candidate resident wildlife species occur on Fort Greely. The recently delisted American and Arctic peregrine falcons may migrate through the area during spring and fall migration periods. However, there have been no confirmed sightings of these species within 10 miles of Fort Greely. (Ballistic Missile Defense Organization, 2000)

Environmentally Sensitive Habitat

No federally proposed or designated critical habitat has been identified on Fort Greely. No important spawning (anadromous) streams are located on the installation.

The U.S. Army Corps of Engineers Alaska District and the EPA regulate wetlands through the Clean Water Act Section 404 Permitting Program. Wetlands in Alaska are defined by the U.S. Army Corps of Engineers as "those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas." The National Wetlands Inventory maps identified several potential wetlands in the Missile Field Complex Area. Based on a field investigation, a final determination by the U.S. Army Corps of Engineers identified an area along the southern boundary of Fort Greely as a wetland (Phillips, 2002).

3.3 CULTURAL RESOURCES

Cultural resources include prehistoric and historic sites, structures, districts, artifacts, or any other physical evidence of human activity considered important to a culture, subculture, or community for scientific, traditional, religious, or any other reason. For ease of discussion, Fort Greely cultural resources have been divided into archaeological resources, historic resources, and native populations/traditional resources. Paleontological resources (remains of prehistoric plants and wildlife) are described in this section.

Cultural resources are limited, nonrenewable resources whose potential for scientific research (or value as a traditional resource) may be easily diminished by actions impacting their integrity. Numerous laws and regulations require that possible effects to cultural resources be considered during the planning and execution of federal undertakings. These laws and regulations stipulate a process of compliance, define the responsibilities of the federal agency proposing the action, and prescribe the relationship among other involved agencies (e.g., State Historic Preservation Officer [SHPO], the Advisory Council on Historic Preservation). In addition to NEPA, the primary laws that pertain to the treatment of cultural resources during environmental analysis are the NHPA (especially Sections 106 and 110), the Archaeological Resources Protection Act, the Antiquities Act of 1906, the American Indian Religious Freedom Act, and the Native American Graves Protection and Repatriation Act.

Region of Influence

The term ROI is synonymous with the "area of potential effect" as defined under cultural resources regulations, 36 CFR Part 800.16(d). In general, the ROI for cultural resources encompasses areas requiring ground disturbance. The ROI for cultural resources includes those areas that could potentially be disturbed by proposed construction, infrastructure improvement, and/or operation projects in the Cantonment Area, Missile Field Complex Area, or Allen Army Airfield Area, as described in chapter 2.

Affected Environment

Prehistoric Overview

Archaeological evidence indicates that the Fort Greely area has been occupied for 10,000 to 12,000 years. Archaeological investigations on Fort Greely and Donnelly Training Area have resulted in the recognition of several culturally significant sites to date. Identified sites have been located predominantly in the vegetative community west of the Delta River outside the ROI. Most of the sites are remnant surface flake scatters, isolated artifacts, or are found in a previously disturbed context and presently contain insufficient information to identify site function, affiliation, or age. (U.S. Army Space and Missile Defense Command, 2002a)

Historic Overview

The Valdez-Fairbanks Trail, which runs south to north along the west side of the installation, provided a transportation route for the first substantial incursion of Euroamericans into the Fort Greely area during the 1898 Tanana Valley Gold Rush. Although some historic properties within the Fort Greely area have been identified, none were established on Fort Greely itself. Consequently, no Pre-World War II era properties exist at Fort Greely. (See appendix D.)

The beginning of World War II and subsequent Cold War era military build-up has contributed to the present development of Fort Greely. The only National Register eligible historic properties at Fort Greely consist of 26 administration and support buildings identified as significant under the Cold War historic context. (See appendix D.)

Cantonment Area

Archaeological Resources

Archaeological survey work in the past at Fort Greely has primarily been conducted only as needed to comply with NHPA Section 106 as associated with infrastructure development. Three significant archaeological surveys associated with the Cantonment Area have been conducted to date and include:

- Bacon, Glenn and Holmes, Charles E. *Archaeological Survey and Inventory of Cultural Resources at Fort Greely*, Fairbanks, Alaska: Alaskarctic, 1979
- Holmes, Charles E. *Summary Report: Determination of National Register Eligibility for Three Archaeological Sites at Fort Greely, Alaska*, 2002
- Robertson, Aaron. *Archaeological Survey for Fort Greely Gravel Borrow Pit Area*. U.S. Army Space and Missile Defense Command Fort Greely, Alaska, May 2004

The discovery of eight prehistoric sites resulted from these three surveys. Of the eight prehistoric sites, only three exist within the Cantonment Area. The additional five exist just within the southeastern boundary of the Allen Army Airfield. All identified sites are tied closely with knolls or high points along Jarvis Creek glacial moraine on the eastern boundary of Fort Greely. (U.S. Army Space and Missile Defense Command Fort Greely Environmental Office, 2004) Due to a lack of surface and subsurface artifacts discovered, the area between the Jarvis Creek glacial moraine and Richardson Highway is considered clear of cultural resources concerns and is classified as being within a zone of low probability for potential archaeological sites. (U.S. Army Space and Missile Defense Command, 2002a)

Historic Resources

As part of the Army's requirements for Base Realignment and Closure, a 1997 Architectural Inventory identified 26 Cold War buildings within the Cantonment Area that met the National Register eligibility requirements. Under a Memorandum of Agreement, Fort Greely and the SHPO agreed to mitigate any impacts to these buildings by preparing a Historic American Building Survey recordation. With completion of the survey, the Memorandum of Agreement allows the Army to transfer, remodel, rehabilitate, or demolish any of the structures. (See appendix D.)

Native Populations/Traditional Resources

Although the bones of Ice Age mammals have been found elsewhere in the vicinity, no paleontological significant remains have been encountered on Fort Greely (U.S. Army Space and Missile Defense Command, 2002a). Fort Greely encompasses lands historically and prehistorically occupied by the Tanana Indians. Salcha Natives used the Delta River and Delta Creek for subsistence hunting in historic times; however, this generally ceased by the 1920s. By 1962, there were no native settlements in the Tanana Valley between Healy Lake and Nenana. No Alaska Native traditional cultural properties have been formally identified on Fort Greely. In addition, no Alaska Native reservations or villages are in the immediate vicinity of Fort Greely. (U.S. Army Space and Missile Defense Command, 2004a) Healy Lake is the closest Alaska Native village, located approximately 35 miles northeast of Fort Greely (Alaska Division of Community Advocacy, 2005).

Missile Field Complex Area

Archaeological Resources

An archaeological survey was performed in 2000 in the areas specified for the construction of the Ground-Based Midcourse Defense missile field (appendix D). No recorded sites have been discovered within the Missile Field Complex Area. Due to the degree of disturbance to the area and the physiographic setting within which the Missile Field Complex Area occurs, the potential for archaeological materials in the area is considered low.

Historic Resources

Within the Missile Field Complex Area only recent use sites (i.e., less than 50 years old) exist and are associated with contemporary hunters, trappers, and the military. None of these display sufficient significance or integrity to be considered eligible for listing in the National Register. (U.S. Army Space and Missile Defense Command, 2002a)

Allen Army Airfield Area

Archaeological Resources

As previously mentioned, three archaeological surveys have resulted in a total of eight identified archaeological sites at Fort Greely. Within the Allen Army Airfield Area, five sites are located on the southeastern border of the airfield adjacent to the Cantonment Area. One archaeological site has been determined to be eligible for listing on the National Register. All sites exist along the Jarvis Creek glacial moraine and thus within an area classified as favorable to find archaeological resources. However, none of the sites are located within the ROI of any specific proposed projects. The remainder of the airfield is within an area with a low probability for the existence of prehistoric resources. In addition, no prehistoric sites were discovered during an

intensive pedestrian survey in 2004. Furthermore, past construction and ground disturbance would have destroyed any prehistoric deposits within the ROI. (U.S. Army Space and Missile Defense Command, 2004a, U.S. Army Space and Missile Defense Command Fort Greely Environmental Office, 2004)

Historic Resources

Within the Allen Army Airfield Area only recent use (i.e., less than 50 years old) sites and structures exist. None of the sites or structures display sufficient significance or integrity to be considered eligible for listing in the National Register.

3.4 GEOLOGY AND SOILS

Geology and soils include those aspects of the natural environment related to the earth, which may affect or be affected by the Proposed Action. The resource is described in terms of physiography, geologic units and their structure, soil condition and capabilities, the presence/availability of mineral resources, and the potential for natural hazards.

Region of Influence

The ROI for geology and soils includes all areas that could be affected by construction or operations by the Proposed Action. For discussion this includes the entire area within the Fort Greely boundary.

Affected Environment

Physiography

Fort Greely is in the eastern portion of the Tanana-Kuskokwim Lowlands physiographic province on the north side of the Alaska Range. Streams flowing through the foothills generally originate in the Alaska Range and flow north in rugged V-shaped canyons and across broad terraced valleys. Fort Greely is situated between two significant drainages originating in the foothills—the Delta River to the west and Jarvis Creek to the east. The terrain primarily is mildly undulating with elevations ranging from approximately 1,350 to 1,450 feet. (U.S. Army Space and Missile Defense Command, 2004a)

Geology

Fort Greely is located on a low alluvial terrace that has a gently undulating surface. The terrace is composed of glacial outwash deposits of the Alaska Range that are underlain by till, which is in turn underlain by stratified gravel (U.S. Army Alaska, 1996). Moraine features to the east and south of the Cantonment Area are composed of coarse, unstratified, and unsorted till ranging from silty gravel with sand to sandy silt with gravel. Wind blown loess of glacial origin forms a mantle over much of the Fort Greely area, ranging from several inches to greater than 5 feet thick. Discontinuous permafrost occurs from the surface to as much as 217 feet below ground surface throughout much of the region. However, permafrost was not encountered in soil borings conducted in the Missile Field Complex Area or during construction in the Cantonment Area and Allen Army Airfield Area. (U.S. Army Space and Missile Defense Command, 2002a; Lee, 2005)

Soils

Few detailed soil surveys have been completed on or within the vicinity of Fort Greely. Generally, soils have been derived from glacial events and modified by streams and permafrost. Lowland soils have moderate erosion potential, while foothill soils have moderate to high erosion potential (U.S. Army Alaska, 2003). Shallow, well-drained silt loams with sandy to gravelly underlying material occupy most of the rolling uplands on the surface of the glacial moraines and alluvium east of the Delta River. (U.S. Department of the Army, 1997)

Mineral Resources

The U.S. Department of the Interior and DoD considered Fort Greely, including the Donnelly Training Range areas, to have low to moderate potential for leasable minerals. Eight mineral material sites, all of which are now closed or inactive, were located within the area. A large gravel pit, used for recent runway construction, is located adjacent to the Allen Army Airfield. Smaller gravel pits are located east of the Missile Field Complex Area.

Geologic Hazards

Fort Greely lies in seismic Zone 3, where major earthquake damage has a 10 percent probability of occurring at least once in 50 years. From past studies there appears to be no concentration of seismic events in the area, and serious damage has not been reported. (U.S. Army Space and Missile Defense Command, 2002a)

3.5 HAZARDOUS MATERIALS AND WASTE

The relevant aspects of hazardous materials/waste management include the applicable federal and state regulations and Fort Greely Environmental procedures. These procedures include specific procedures for hazardous materials usage and hazardous waste generation, and management programs for existing hazardous waste-contaminated sites within areas potentially affected by the Proposed Action, as well as spill notification and response procedures.

Hazardous materials and hazardous waste management activities are governed by specific environmental regulations. For the purposes of the following analysis, the terms hazardous materials or hazardous waste will mean those substances defined by both federal and state regulations. In general, this includes substances that, because of their quantity, concentration, or physical, chemical, or infectious characteristics, may present substantial danger to public health or welfare or the environment when released into the environment. Hazardous waste is further defined in 40 CFR 261.3 as any solid waste that possesses any of the hazard characteristics of toxicity, ignitability, corrosivity, or reactivity. Solid waste is defined as any discarded material (in effect, abandoned, recycled, inherently waste-like, or no longer suitable for its intended purpose) that is not specifically excluded in 40 CFR 261.4. This definition can include materials that are both solid and liquid (but contained). Transportation of hazardous materials is regulated by the U.S. Department of Transportation regulations within 49 CFR.

The following description of the affected environment provides an overview of hazardous materials management, hazardous waste management, pollution prevention initiatives, IRP sites, asbestos, polychlorinated biphenyls (PCBs), lead-based paint, radon, and pesticides.

Region of Influence

The ROI for hazardous materials and hazardous waste management includes the areas described in the Proposed Action and other hazardous material and hazardous waste support facilities within Fort Greely.

Affected Environment

Hazardous Materials Management

The Hazardous Materials and Waste Management Procedures were completed in October 2002 as part of the Fort Greely Environmental Procedures. In compliance with all applicable state and federal regulations, they establish SOPs for the correct management and storage of hazardous materials.

In addition, the U.S. Army Garrison, Fort Greely has prepared the Spill Notification and Response Procedures for Fort Greely and the Spill Prevention and Response Plan which establish procedures necessary to safely detect, report, contain, and clean up all spill discharges on post. In addition, the Fort Greely Storm Water Pollution Prevention Plan (SWPPP) includes site-specific good housekeeping practices, facility surveys, satellite accumulation area inspections, employee training, record keeping and internal reporting, comprehensive site compliance evaluation, and sediment and erosion control (U.S. Army Space and Missile Defense Command, 2003). The installation also complies with applicable reporting requirements by submitting annual emergency response and extremely hazardous substances updates to the local emergency management officials.

Hazardous Waste Management

Fort Greely is registered by the EPA as a small quantity generator. The wastes are accumulated in 55-gallon drums at satellite accumulation points before disposal. A building near T100 serves as the temporary hazardous waste storage facility. Hazardous waste management is performed in accordance with the Fort Greely Hazardous Materials and Waste Management Procedures. (U.S. Army Space and Missile Defense Command, 2002b)

Pollution Prevention

The Fort Greely Pollution Prevention Plan, aids in the elimination or reduction of hazardous substances, pollutants, and contaminants. Recycling activities at Fort Greely include fuels, batteries, and brass shell casings. (U.S. Army Space and Missile Defense Command, 2002a)

Installation Restoration Program

No IRP sites on Fort Greely have been listed on the Comprehensive Environmental Response, Compensation, and Liability Act National Priorities List. In addition, there are no known leaking underground storage tank sites on the installation (U.S. Army Space and Missile Defense Command, 2002b).

Environmental cleanup at Fort Greely has been addressed under both the IRP and the Base Realignment and Closure Environmental Cleanup Program. Numerous sites have been investigated by the U.S. Army and some remediation efforts have been completed, however, investigations are still ongoing at a number of sites. Remediation activities will follow Fort Greely's Institutional Controls, Excavation Clearances Procedures, which requires permission

before initiating digging. (U.S. Army Space and Missile Defense Command, 2002a) The Environmental Sites Decision Document is expected to be completed in the first half of 2005. It will describe the status of all IRP related environmental sites at Fort Greely and will serve as an agreement between Fort Greely, ADEC, and the EPA.

Asbestos

A limited asbestos survey of family housing unit basements was conducted at Fort Greely in 1998. Most of the buildings surveyed were found to contain asbestos in pipe fittings and pipe insulation. Buildings within the installation have been evaluated for the potential presence of asbestos-containing materials based on the results of this surveys and date of construction. Buildings constructed before 1985, which have not been surveyed, have been identified as at risk for the presence of asbestos-containing material. (Ballistic Missile Defense Organization, 2000) A new survey of all housing units is underway as of February 2005.

Polychlorinated Biphenyls

A PCB survey was conducted at Fort Greely in 1993, during which all transformers were sampled. The 1993 survey identified 16 transformers that contained PCB concentrations between 50 and 499 ppm. All PCB-containing transformers were removed from the installation in 1994. (Ballistic Missile Defense Organization, 2000)

Lead-based Paint

In 1997, a lead-based paint survey was performed for the family housing, medical center, and transient quarters at Fort Greely. All buildings surveyed were found to contain lead-based paint. Buildings not surveyed but constructed before 1978 are believed to be at risk for the presence of lead-based paint. (Ballistic Missile Defense Organization, 2000)

Radon

Based on the results of ongoing surveys, a number of buildings within the Cantonment Area contain radon. Recent surveys identified 23 buildings containing radon concentrations above the current EPA guidelines equal to or greater than 4 picocuries per liter. Currently, follow-up surveys are scheduled for 2005 in support of recent buildings found to have radon concentrations equal to or greater than 4 picocuries per liter. All buildings with radon levels greater than or equal to the EPA guidelines will be mitigated. In addition, recent surveys have indicated that buildings where mitigation has been implemented have radon concentrations below EPA guidelines. (McCrum, M., 2005, Ballistic Missile Defense Organization, 2000)

Pesticides

Fort Greely has completed an IPMP. The goal of this plan is to minimize the adverse environmental impact of pesticide use while achieving an acceptable level of control and cost-effectiveness. All chemicals used on Fort Greely are EPA approved and are applied by personnel who are DoD management certified.

Vegetation control is required at Fort Greely on the airfield, road shoulders of main roads, outside storage areas, and other places where weeds grow in concrete and asphalt cracks. Mosquitoes, biting gnats, and flies are important pests during warm months. The Alaska Preventative Medicine Branch and the Pest Controller are responsible for mosquito surveillance

and determination of the need for control. Control includes elimination of mosquito breeding areas and use of pesticides when needed. Ultra Low Volume insecticide treatment with Pyrenone is the recommended treatment. Flies are normally treated using sanitation practices. (Ballistic Missile Defense Organization, 2000)

3.6 HEALTH AND SAFETY

Health and safety includes consideration of any activities, occurrences, or operations that have the potential to affect one or more of the following:

The well-being, safety, or health of workers—Workers are considered to be persons directly involved with the operation producing the effect or who are physically present at the operational site.

The well-being, safety, or health of members of the public—Members of the public are considered to be persons not physically present at the location of the operation, including workers at nearby locations who are not involved in the operation and the off-post population. Also included within this category are hazards from equipment, structures, plants, and animals.

Region of Influence

The ROI for health and safety of workers includes the immediate work areas used during the proposed activities identified in chapter 2. The ROI for public safety includes properties immediately adjacent to the installation and the transportation network for hazardous materials.

Affected Environment

Fort Greely maintains maintenance personnel and firefighting support. The fire station is located in the Cantonment Area and is staffed to support the current MDA mission. To assist in emergency response, Fort Greely maintains cooperative agreements with most of the small communities within a 100-mile radius of the installation.

The Allen Army Airfield at Fort Greely is only minimally used for training. The Clear Zones for the airfield are currently contained within the installation boundaries. No airport surveillance radars currently exist at Fort Greely although the installation and use of an ASR-11 or similar type radar is planned. This action was described and analyzed in the GMD VOC Supplemental EA. (U.S. Army Space and Missile Defense Command, 2002b)

Under a Memorandum of Understanding, the Bureau of Land Management Alaska Fire Service is responsible for fire detection and suppression on withdrawn lands. The Alaska Fire Service has a reciprocal Fire Protection Agreement with the State of Alaska, Department of Natural Resources, Division of Forestry. Nineteen fires of 100 acres or more occurred on Fort Greely from 1954 to 1997. A 50-foot firebreak around all facilities has historically been required.

The U.S. Army utilizes Fort Greely throughout the year to support troops involved in training exercises. Weapons are fired from the east side of the Delta River in the Donnelly Training Area West westward toward weapons impact areas, which have restricted access because of potentially unexploded ordnance. The Donnelly Training Area East, adjacent to Fort Greely

across Jarvis Creek, is used primarily as a non-firing maneuver area. The Cold Regions Test Center uses this same area for experiments and testing.

The Air Force uses the airspace above the Donnelly Training Area for training activities. These activities are conducted within the restricted airspace or along military training routes in the vicinity of Fort Greely in accordance with Air Force safety procedures.

3.7 LAND USE

Land use can be defined as the human use of land resources for various purposes including economic production, natural resources protection, or institutional uses. Land uses are frequently regulated by management plans, policies, ordinances, and regulations that determine the types of uses that are allowable or protect specially designated or environmentally sensitive uses. Potential issues typically stem from encroachment of one land use or activity on another or an incompatibility between adjacent land uses that leads to encroachment.

Region of Influence

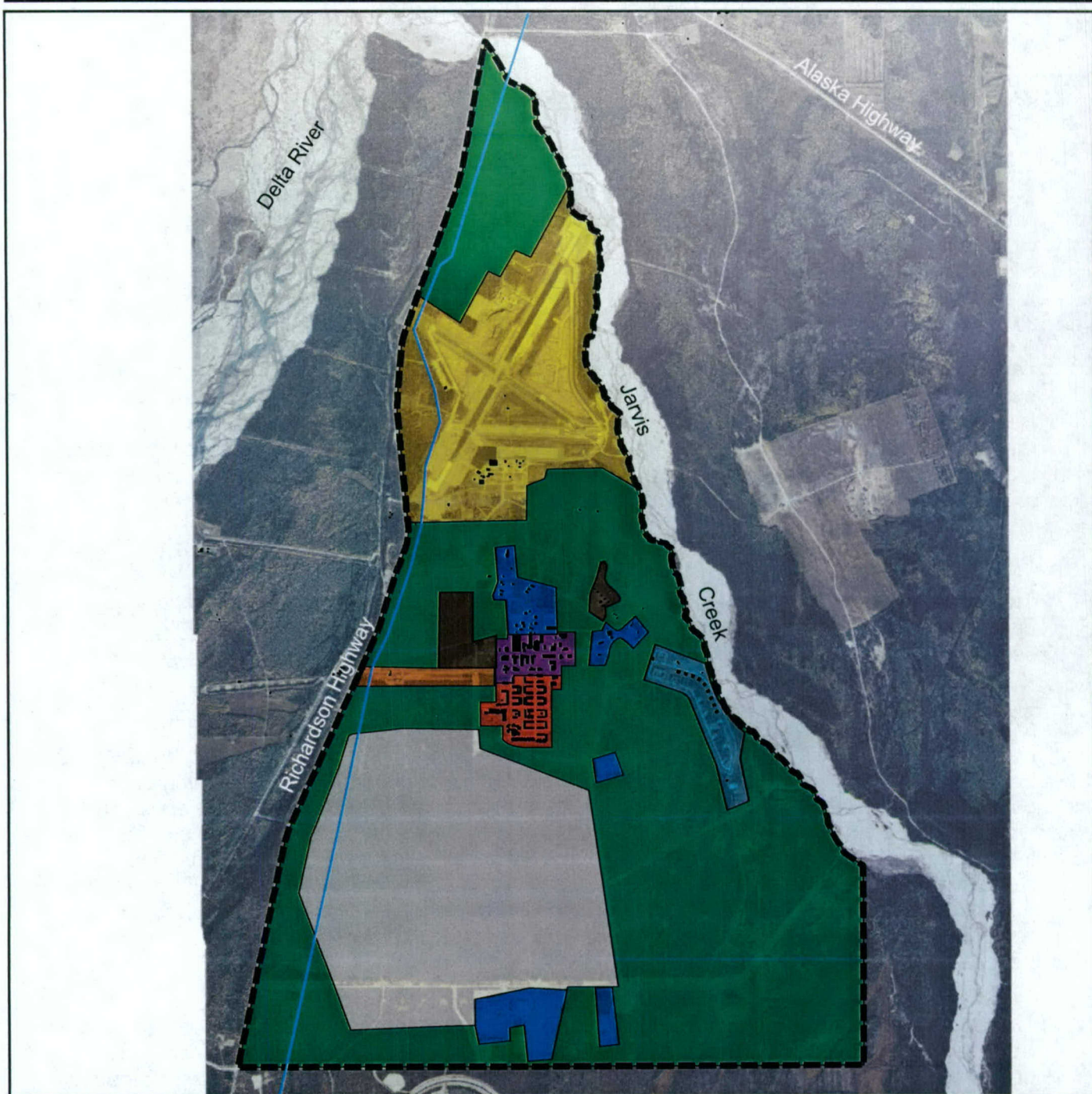
The ROI for land use includes lands on and adjacent to Fort Greely that could potentially be disturbed by construction, infrastructure improvement, and/or operation projects identified in section 2.1 under the Proposed Action.

Affected Environment

Fort Greely is located southeast of Fairbanks and just south of the community of Delta Junction. Fort Greely is not located in a municipality or a borough, and there are no local zoning or land use policies. There are also no state zoning or land use plans or guidelines for the area. The land around Fort Greely is composed of forests, tundra, or wetlands and serves as a military training range. Most development occurs on the Richardson Highway north in Fairbanks, and some small settlements are found along the highways at Delta Junction, Big Delta, Richardson, Alrich, and Birch Lake. The Trans-Alaska Oil Pipeline bisects Fort Greely, with a pumping station located 2.5 miles southwest of the Cantonment Area. (U.S. Army Space and Missile Defense Command, 2002a)

The Cantonment Area is positioned between the Allen Army Airfield Area and the Missile Field Complex Area and includes approximately 870 acres. Serving as the center for most of the day-to-day activities at Fort Greely, the Cantonment Area consists of developed areas, industrial areas, recreational areas, and natural areas. In general, housing is located in the southern portion of the Cantonment Area; support, administrative, and light industrial uses are located in the central to northern portion; and heavy industrial uses are located to the north, as shown in figure 3-1.

The Missile Field Complex Area is located in the southern portion of Fort Greely and encompasses 644 acres. In support of the GMD Program's Test Bed and Initial Defensive Operations activities, the Missile Field Complex Area will include up to 40 silos equipped with GBIs and associated support facilities/functions. With the exception of a landfill, gravel pit areas, and the Canadian and American National Oil Line (CANOL) Pipeline Tank Farm, primary land utilization is dedicated to the Missile Field Complex Area facilities/function (figure 3-1).



EXPLANATION

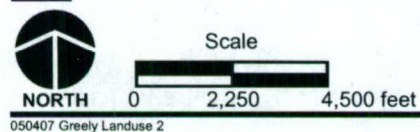
- Installation Boundary
- Buildings
- Natural Area
- Airfield
- Industrial
- Mixed-Use
- Residential

- Parks and Recreation
- Ammunition Storage
- Entry Area
- Missile Field Area
- Alyeska Pipeline

Existing Land Use

Fort Greely, Alaska

Figure 3-1



Fort Greely Installation EA

Located on the northern portion of Fort Greely, the Allen Army Airfield Area encompasses approximately 1,760 acres. As mentioned in section 2.1.3, the airfield consists of three active, paved runways, 37,600 square feet of hangar space, and approximately 92,000 square feet of ramp space. Hangar, aircraft parking, and airfield support facilities are located on the south side of the airfield, while natural areas exist to the north and along the eastern and western edge of the area (figure 3-1).

Beyond the boundary of Fort Greely, recreational activities include hunting, fishing, trapping, off-road vehicle use, hiking, backpacking, camping, boating, bicycling, wildlife watching, and skiing (U.S. Army Space and Missile Defense Command, 2002b). Recreation within Fort Greely is primarily limited to community activities within the Cantonment Area.

3.8 NOISE

Noise is typically described as unwanted sound. Characteristics of sound include amplitude, frequency, and duration. Sound can vary over an extremely large range of amplitudes. The decibel is the accepted standard unit for the measurement of the amplitude of sound because it accounts for the large variations in amplitude and reflects the way people perceive changes in sound amplitude. Sound pressure levels are easily measured, but the variability is subjective and physical response to sound complicates the analysis of its impact on people. People judge the relative magnitude of sound sensation by subjective terms such as "loudness" or "noisiness."

Sound also varies with frequency and pitch. When describing sounds and its effects on a human population, weighted sound levels, measured in A-weighted decibels (dBA), are typically used to account for the response of the human ear. The term "A-weighted" refers to a filtering of the sound signal to emphasize frequencies in the middle of the audible spectrum and to de-emphasize low and high frequencies in a manner corresponding to the way the human ear perceives sound. The American National Standards Institute established this filtering network. The A-weighted noise level has been found to correlate with people's judgments of noisiness of different sounds and has been used for many years as a measurement of community noise.

The primary environmental noise descriptor used in environmental noise assessments is the A-weighted Day-Night Equivalent (DNL). The DNL was developed to evaluate the total daily community noise environment. The DNL is the average A-weighted acoustical energy during a 24-hour period, with 10 dBA added to all signals recorded within the hours of 10:00 p.m. and 7:00 a.m. This 10 dBA is a penalty that accounts for the extra sensitivity people have to noise during typical sleeping hours.

Almost all federal agencies having non-occupational noise regulations use DNL as their principal noise descriptor for community assessments. The State of Alaska does not have regulatory authority or state regulations for noise control. (Department of the Army, United States Army Engineer District, Alaska, 2001)

Region of Influence

The ROI for noise includes the Cantonment Area, Missile Field Complex Area, and Allen Army Airfield Area and areas adjacent that could potentially be affected by the proposed activities.

Affected Environment

Fort Greely currently maintains an Installation Environmental Noise Management Plan, which is designed to help Fort Greely be a responsible member of its home community without compromising the operational capabilities of the installation. There is no ongoing or chronic impact to the community from operations at Fort Greely, although individual operations may cause annoyance and sometimes lead to noise complaints. (Department of the Army, United States Army Engineer District, Alaska, 2001)

The area surrounding Fort Greely is sparsely populated, and thus, would be expected to have a background noise level of DNL less than or equal to 55 dBA. However, under certain conditions, a low level droning noise from a nearby Alaska pipeline pumping station can be heard. This noise level comes from the pumping stations' turbine engines and was estimated to be 55 dBA.

The principal sources of noise at Fort Greely and the surrounding area are vehicular traffic and military activities. The main highways in the vicinity of Fort Greely are the Richardson Highway and the Alaska Highway. Military activities include aircraft overflight and firing of large and small caliber weapons. Frequency and duration of noise from military activities vary with training schedules. Noise from military activity at the Donnelly Training areas adjacent to Fort Greely, while intermittent, can be fairly loud. Noise from weapons testing technically ranges from 112 to 190 dBA. The noise levels on the ground from a helicopter at 1,500 feet and 250 feet of altitude are 79 dBA and 95 dBA, respectively.

Few sensitive noise receptors are known to exist in the vicinity of Fort Greely. The Delta/Greely School district currently houses 6th through 8th grades at the Fort Greely School. The town of Delta Junction is located about 5 miles north of the Fort Greely Cantonment Area.

3.9 SOCIOECONOMICS

Socioeconomics describes a community by examining its social and fiscal characteristics. Several demographic variables may be analyzed in order to characterize the community, including population size, the means and amount of employment, and income creation. In addition, socioeconomic analysis may address the economic condition of local government and the allocation of the assets of the community, such as its schools, housing, public services, and healthcare facilities. Another facet of socioeconomic, particularly in areas of high native concentration, is subsistence.

State and federal law define subsistence as the "customary and traditional uses" of wild resources for food, clothing, fuel, transportation, construction, art, crafts, sharing, and customary trade; such uses are central to the customs and traditions of many cultural groups in Alaska. Subsistence fishing and hunting are important sources of employment and nutrition in almost all rural communities, and rural Alaska residents qualify for subsistence under federal law. (Alaska Department of Fish and Game, Department of Subsistence, 2000)

Region of Influence

The ROI for socioeconomic comprises the Southeast Fairbanks Census Area, specifically Big Delta, Fort Greely, and Delta Junction.

Affected Environment

The nearest town to Fort Greely is Delta Junction, about 5 miles north of the main Cantonment Area. The area is sparsely populated with an economy dependent on Fort Greely, state employment, some agriculture, and the Alyeska Pipeline Service Company.

In the years following the installation's construction, Fort Greely's arctic training became a major contributor to the local economy. In July 1995, the Base Realignment and Closure Commission recommended realignment of Fort Greely, which was completed in July 2001. However, changes were immediately made to the recommended realignment to establish the current Fort Greely. (U.S. Army Space and Missile Defense Command, 2000b)

Population

The impact of the downsizing of Fort Greely on the region's population can be seen in the census data, as Fort Greely's share of the Census Area population fell from 52.2 percent in 1990 to 22.5 percent in 2000.

In 2000, it was estimated that the Southeast Fairbanks Census Area had a population of 6,174, of which the ROI totaled 33 percent (2,050 persons). Population growth in the Census Area was affected by Fort Greely's reduction in personnel. The overall population in the census area increased approximately 7.3 percent between 1990 and 2000, whereas the rest of the state's growth was nearly twice that, at 14 percent.

Estimated 2003 population levels, provided by the State Demographer, were as follows: Big Delta, 736; Delta Junction, 984; and Fort Greely, 185. Only Big Delta remains comparable to the year 2000 Census levels: Big Delta, 749; Delta Junction, 840; Fort Greely, 461. (State of Alaska, Department of Commerce, Community, and Economic Development, 2004)

The *Fort Greely Summary Development Plan* projected 644 people working on the installation as of 2005, of which only 168 would be housed on base. Approximately 476 personnel would commute. It is predicted these numbers will remain fairly constant through 2008, with 650 and 168 personnel, respectively.

In 2000, the Alaska Native population within the ROI in 2000 was relatively small, with Fort Greely having the lowest density of the three communities at 2.0 percent. Delta Junction and Big Delta had Alaska Native populations of 5.6 percent and 2.1 percent, respectively. (State of Alaska, Department of Commerce, Community, and Economic Development, 2004) This percentage addresses those reporting Alaska Native alone or in combination with one or more races.

Employment

Before realignment, Fort Greely accounted for approximately 50 percent of all the employment within its surrounding communities, emphasizing the lack of diversity in the economy of the ROI. The School District is the second-largest government employer in the area, along with state and federal highway maintenance services. The highway also provides some tourism-related employment during the summer months. (U.S. Army Space and Missile Defense Command, 2002b)

Unemployment in 2000 was 11.6 percent for Delta Junction and 24.7 percent for Big Delta. The number of residents 16 years and over not in the labor force was 47.7 percent for Delta Junction, and 61.1 percent for Big Delta. (State of Alaska, Department of Commerce, Community, and Economic Development, 2004)

At the time of the realignment announcement, there were about 750 jobs at Fort Greely, representing more than half the area's total employment. Estimates based on the *Summary Development Plan* indicate that the majority of personnel working on post between 2005 and 2008 would be government civilians and contractors working for GMD. Out of 645 workers there would be approximately 525 civilians and 120 military.

Retail Sales

Retailing within the ROI is limited to small convenience stores, usually combined with a gas station, and tourism-related retailing, including bars and restaurants. The nearest variety retailing center to the ROI is Fairbanks. (Ballistic Missile Defense Organization, 2000)

Income

According to 2000 Census data, Big Delta had a median household income of \$49,000 and the proportion of individual residents living below the poverty level was 30 percent. Delta Junction had a median household income of \$43,500 and the proportion of individual residents living below the poverty level was 19.4 percent. (State of Alaska, Department of Commerce, Community, and Economic Development, 2004) Fort Greely totals were \$33,750 and 10.4 percent (Alaska Department of Labor and Workforce Development, 2005).

Housing, Education, and Health

There were 654 homes in the Big Delta (232) and Delta Junction (422) communities in 2000, of which a little over 27 percent were vacant (State of Alaska, Department of Commerce, Community, and Economic Development, 2004). However, temporary housing and hotels are currently at a premium in the Delta Junction area as rents have substantially increased due to construction work at Fort Greely.

There are five schools in the Delta/Greely School District, with an estimated 2002 student roll of 604 (Delta/Greely School District, 2002). Additionally, some district students attend "cyber" and correspondence schools. Fort Greely School (Building 725) was closed in May 2000 but reopened and currently houses 6th through 8th grade students (Delta/Greely School District, 2005). Student enrollment for the Fall 2003 reopening was estimated at 216 (Fairbanks Daily News-Miner, 2003), but varied between 168 and 192, based on periodic counts and the influence of student transfers (Fort Greely School, 2004). Current enrollment (April 2005) is at 194 students (Jensen, 2005).

Medical care is available primarily through the Delta Junction Family Medical Center, milepost 267.2 on Richardson Highway; there is a clinic located in Fort Greely's Building 661, utilized predominately by military personnel or during emergencies (Lee, 2005). The nearest hospital, Fairbanks Memorial, is located approximately 100 miles away.

Fiscal Condition

For fiscal year 2005, the city budget for Delta Junction is approximately \$1,000,000, with a comparable income arising predominately from Federal Payment in Lieu of Taxes, local service charges, and state sources (Hallgren, 2005).

Subsistence

Subsistence uses of wild resources are defined as "noncommercial, customary and traditional uses" for a variety of purposes, including direct personal or family consumption as food, shelter, fuel, clothing, tools, or transportation; for the making and selling of handicraft articles out of non-edible byproducts of fish and wildlife resources taken for personal or family consumption; and for the customary trade, barter, or sharing for personal or family consumption.

Most Fort Greely area residents live in the non-native communities of Big Delta and Delta Junction. A number of Big Delta and Delta Junction residents can be characterized as subsistence users, but due to the employment opportunities in and around the Fort Greely area, there is little dependency on subsistence harvesting in these communities (Ballistic Missile Defense Organization, 2000). Overall, the Southeast Fairbanks Census Area has a low dependence on wild foods compared with other communities throughout the state; of the communities surveyed within the census area, Delta Junction is both the closest to Fort Greely and the lowest in total harvest (State of Alaska, Department of Commerce, Community, and Economic Development, Department of Community Advocacy, 2005). The use of Fort Greely's on-base natural resources for legal subsistence is virtually nonexistent (U.S. Army Space and Missile Defense Command, 2000b). In the recent past, hunting, fishing, and trapping permits for Fort Greely were issued to civilians, making an accurate prediction of subsistence use highly problematic. Current regulations, however, list "the Fort Greely Missile Defense Site, including Allen Army Air Field" as an off-limits area (U.S. Army Alaska, 2004), and the question of unrecorded subsistence uses is no longer an issue.

3.10 TRANSPORTATION

The transportation resource section addresses the ground and air transport systems and their use within the ROI. The principal issue to be addressed is the potential for increased traffic and its influence on capacity.

Region of Influence

The ROI for ground transportation includes the Richardson Highway in the vicinity of Fort Greely and Fort Greely installations roads. These roadways are expected to be used for project activities. The ROI for the air transportation analysis includes Allen Army Airfield Area, located on Fort Greely.

Affected Environment

Roadway Traffic

Fort Greely is located approximately 100 miles southeast of Fairbanks. The Richardson Highway provides access to the main gate at Fort Greely, approximately 5 miles south of Delta Junction. The primary roads in the area are the two-lane Richardson Highway, which runs north-south connecting Fairbanks and Valdez, and the two-lane Alaska Highway, which runs

east-west connecting Delta Junction with the Canadian-American border. (Ballistic Missile Defense Organization, 2000)

There are 14 miles of paved roadway and 7.4 miles of unpaved roadway on Fort Greely, as well as 4.5 miles of training-area roads, which are limited-access and unpaved (*Summary Development Plan*). Roads serving the Cantonment Area are generally paved and in good condition. Range roads are generally graded and in fair condition, with the exception of a few unmaintained roads. (Ballistic Missile Defense Organization, 2000)

The area surrounding Fort Greely is sparsely populated with a moderate traffic flow. In 1997, the Richardson Highway in the vicinity of Fort Greely experienced an average annual daily traffic of 1,750, while the Alaska Highway at the Richardson Highway junction had an average annual daily traffic of 3,350. (Ballistic Missile Defense Organization, 2000)

Vehicular traffic can currently access Fort Greely from the Richardson Highway through the main security gate on Big Delta Road, the primary east-west roadway on Fort Greely. First Street is the primary north-south roadway within the Cantonment Area. Robin Road connects directly to the Allen Army Airfield Area to the north and the Missile Field Complex to the south. Personnel from Donnelly Training Range routinely use roads, paths, and fords to cross between the east and west ranges. These main routes include a ford to cross Jarvis Creek near the Allen Army Airfield Area and Firebreak Road in the southern area to access other fords. Although there is no traffic information for Fort Greely installation roadways (Ballistic Missile Defense Organization, 2000), traffic levels have decreased since realignment.

Recently, a 101-mile stretch of Richardson Highway, including the area spanning Fort Greely and Delta Junction, was designated as a State Scenic Byway (Fairbanks Daily News-Miner, 2005). As to regulations, there are no state restrictions that apply to scenic byways; the one requirement limits new billboard construction (Alaska Department of Transportation and Public Facilities, 2005a). Other developments on the highway include improvements put forth by the Governor's "Surface Transportation Initiative"; specifically, a move to construct additional vehicle passing lanes between milepost 265 and 341, the area between Delta Junction and Eielson Air Force Base. The recent increase in military traffic, as well as the related need of slow-moving convoys to have passage, is cited as one of the justifications for the measure (Office of the Governor, 2004), which allows the highway to be eligible for grant funding (Alaska Department of Transportation and Public Facilities, 2005b). The highway improvements and other projects proposed in the transportation package await approval by the Alaska legislature. Another proposal currently considered is the Department of Transportation's plans to widen Richardson Highway between milepost 261 (the location of the current main entrance to Fort Greely) and 265, in Delta Junction. The proposal includes the construction of a left-turn lane into the installation, possible illumination of the intersection, and a new bridge on Jarvis Creek, downstream (west) of the current bridge (Woster, 2005).

Railway Traffic

The *National Defense Rail Connection Act of 2002* (S.2687.IS) describes its plan for extending Alaska railways as "a proposed national defense railroad-utility corridor linking the existing corridor of the Alaska Railroad to the vicinity of the proposed National Missile Defense facilities at Fort Greely, Alaska." This proposed 80-mile extension of the Alaska Railroad would originate in the vicinity of Eielson Air Force Base and terminate at Fort Greely and Delta Junction.

The state-owned railroad, which has roughly 500 miles of mainline track between Seward and North Pole, provides passenger and freight service. Environmental analysis and documentation, scheduled to begin in 2005, is anticipated to be completed by 2006. (Anchorage Daily News, 2005) Engineering and design activities are expected to continue through 2007 (when construction could potentially begin), with completion of the extension projected for 2011 (The Alaska Railroad, 2005).

Airway Traffic

Allen Army Airfield is located in Fort Greely's northern portion; located approximately 3 miles south of Delta Junction, its fenced area encompasses 1,155 acres.

The Allen Army Airfield Area consists of three paved, active runways: runway 18/36 is 9,000 feet long by 150 feet wide; runway 9/27 is 6,120 feet long by 150 feet wide; and runway 6/24 is 4,647 feet long by 150 feet wide. The runways are all operational (Federal Aviation Administration, Alaskan Region, undated). The Allen Army Airfield Area includes approximately 37,600 square feet of hangar space and approximately 920,000 square feet of ramp space. Hangar, aircraft parking, and airfield support facilities are on the south side of the Allen Army Airfield Area.

The Allen Army Airfield can accommodate all aircraft in the current inventory including C5/C141 aircraft. Historically, the Allen Army Airfield Area has provided general aviation support for the U.S. Army Garrison, Post Headquarters, Cold Regions Test Center, the Northern Warfare Training Center, and U.S. Army Alaska.

The runways are complemented by a 37,600-square foot hangar; the hangar is not used for aircraft parking or storage (Mull, 2005). Approximately 920,000 square feet of ramp space is available for military/test aircraft operations. The primary airside and landside support facilities are on the southern side and consist of taxiways, aircraft parking, helipads, hangars and support facilities. All the airfield operational areas are also paved. (GlobalSecurity.org, 2002; Mull, 2005) The Jarvis Creek Taxiway is closed.

The Allen Army Airfield Area is currently an uncontrolled airfield. Airfield Operations provides full flight plan facilities and communications on FM between the hours of 0700 and 1900. (GlobalSecurity.org, 2002; Mull, 2005) Currently, the airfield experiences two to three flights per week, all of which are military (Sharp, 2005).

In 2000, a Master Plan for the joint use of Allen Army Airfield Area was developed by ASCG, Incorporated. Commercial aviation, light aircraft maintenance, avionics repair, and utilizing Allen Army Airfield as a staging area for regional mining exploration interests were included in the planning. (GlobalSecurity.org, 2002; Mull, 2005)

3.11 UTILITIES

Infrastructure addresses those facilities and systems that provide power, water, wastewater treatment, the collection and disposal of solid waste, and other utility services.

Region of Influence

The utility systems that could potentially be affected by the Proposed Action include potable water distribution; wastewater collection; solid waste collection and disposal; and electrical lines.

Affected Environment

Water

The potable water supply at Fort Greely is currently managed from Building 606, the power plant. Two groundwater wells are used to supply all of the existing building facilities and fire hydrants within the main Cantonment Area. These two wells have a combined capacity of 1.1 million gallons per day. A 188,000-gallon storage tank is located in Building 606 and feeds two 20,000-gallon pressure tanks that pump into a piped water system. (Department of Defense, Missile Defense Agency, 2002)

The existing installation water system, when all buildings were in use, consumed roughly 0.3 million gallons per day. Two new 500-gallon-per-minute wells were developed during initial GMD site preparation activities in the Missile Field Complex Area to provide a dependable water source for the test bed activities. (U.S. Army Space and Missile Defense Command, 2002b)

Wastewater

The sewage system at Fort Greely has a capacity of 0.46 million gallons per day and is operated by U.S. Army Space and Missile Defense Command. The level of wastewater usage, when all buildings were in use, was less than 0.32 million gallons per day.

Sewer lines convey wastewater to an Imhoff (septic) tank inside Building 633. Sludge from the bottom of this tank is pumped to sludge drying beds. Once the sludge is dried, it is hauled to the landfill. Effluent from the Imhoff tank is conveyed to the sewage lagoon. The lagoon is aerated for further treatment. Effluent leaving the sewage lagoon is discharged to Jarvis Creek under a National Pollutant Discharge Elimination System (NPDES) permit held by U.S. Army Space and Missile Defense Command. Monitoring and sampling of the effluent is conducted daily by the Fort Greely Directorate of Public Works workforce. All wastewater facilities are in excellent condition. (U.S. Army Space and Missile Defense Command, 2002b)

Solid Waste

Current solid waste management operations consist of solid waste collection, volume reduction by open pit burning, and final disposal (including ash) in the landfill. The previous Fort Greely landfill was retired; however, through a lateral expansion, Permit 0233-BA005 (which expires on 1 January 2008) allows for an Alaska Class II Municipal Solid Waste Landfill. This landfill area is currently permitted to receive septage, ash, asbestos materials, sludge, and construction

debris (Alaska Department of Environmental Conservation, Division of Environmental Health, 2005).

Electricity

Electrical power requirements at Fort Greely are currently met through a combination of power supplied from Golden Valley Electric Association and on-post generators run by Fort Greely personnel. The electrical power from Golden Valley Electric Association is eventually supplied to Fort Greely through an existing 2.9-megawatt (MW) substation (Gibson, 2005).

The average electrical power demand at Fort Greely was approximately 1.8 MW when all buildings were in use. However, peak demands of up to 3.3 MW sometimes occurred during the winter. When the demand at Fort Greely exceeded the capacity of the substation, additional power requirements were met by the three on-post diesel-powered generators, which together can generate up to 5.5 MW (Gibson, 2005).

The U.S. Army Alaska pays the Golden Valley Electrical Association for the use of its grid (Ballistic Missile Defense Organization, 2000). The Golden Valley Electric Association is a nonprofit, member-owned cooperative that provides electrical service to the Fairbanks North Star Borough, the Denali Borough, unincorporated areas between these two boroughs, and along the Richardson Highway to Fort Greely.

Within the Missile Field Complex Area, the interim power facility includes four 2-MW liquid fuel-fired emergency power generator sets. Smaller sets can be found at the Mechanical/Electrical Building, Missile Assembly Building, the Defense Satellite Communication System (DSCS), the IDT, Utility Building, Interceptor Storage, Water Supply, and Readiness and Control Building, as shown in table 3-2.

3.12 WATER RESOURCES

This section describes the existing water resource conditions at Fort Greely. Water resources include surface water, groundwater, water quality, and flood hazard areas.

Region of Influence

The water resources ROI includes all surface water features, drainage areas, and underlying aquifers that could be affected by construction or operations. This includes the entire area within the Fort Greely boundary.

Affected Environment

Surface Water

Fort Greely is in the Delta River watershed. The Delta River to the west and Jarvis Creek immediately east are the two primary drainages for the Fort Greely ROI. Both are glacier-fed and silt-laden. The peak flow in these water systems is reached in late summer, when snow and ice melt is augmented by rainfall. Minimum flow occurs in winter when precipitation occurs as snow and Jarvis Creek and Delta River are generally frozen solid. Other surface water bodies within the ROI are intermittent, unnamed drainages.

Although floodplain boundaries have not been developed on Fort Greely, there is a low probability of flooding. High flows in the Delta River overflow to the west rather than toward the ROI. Jarvis Creek overflowed into an old channel during a 1967 flood. Since a barrier was placed at the overflow location, flooding along the old channel has not occurred.

Due to the relatively flat terrain and permeable soils within the ROI, much of the storm water runoff infiltrates before it reaches a water body. Fort Greely operates under an NPDES Multi-Sector Industrial Storm Water Permit and the Fort Greely SWPPP, completed in July 2003.

Groundwater

The alluvial aquifer system underlying Fort Greely is classified as a single, generally unconfined aquifer with minor areas of local confinement. Silty sediments and glacial till may be the source of local confinement, where present. Based on soil borings, lithologic features in the upper 250 feet are similar across Fort Greely (mostly sand and gravel) with the exception of discontinuous, less permeable, silt-rich units that are encountered at some locations. (U.S. Army Space and Missile Defense Command, 2004)

The alluvial aquifer is recharged by losing streams, glacial melt, and infiltration of precipitation. Jarvis Creek and Delta River are perched above the alluvial aquifer and lose water to it through their streambeds. In general, the water table moves closer to the land surface the further it is distanced from the Alaska Range, located to the south of Fort Greely. The water table is reportedly more than 400 feet below ground surface near the front of the Alaska Range, 150 to 200 feet below ground surface near Fort Greely, 50 to 100 feet below ground surface near the City of Delta Junction and less than 10 feet below ground surface near Clearwater Creek, Clearwater Lake, and Big Delta. Groundwater discharges from the alluvial system to the surface water system as evidenced by the fact that Clearwater Creek and Clearwater Lake (approximately 6 miles northeast of Fort Greely) are almost entirely spring fed and remain unfrozen during the winter months due to the influx of relatively warm groundwater. (U.S. Army Space and Missile Defense Command, 2004b)

Water table levels fluctuate in response to seasonal recharge to the alluvial aquifer from river and stream channel losses and from precipitation. Seasonal fluctuation in the Fort Greely Cantonment Area is approximately 20 feet annually. Several historical documents related to groundwater at Fort Greely indicate that groundwater levels are at their lowest in late May or early June and rise during the period of ice melting. River ice typically breaks up in April or May, and recharge from surface water begins. The groundwater levels rise until they peak in September/October when the rivers begin to refreeze and groundwater recharge ceases. (U.S. Army Space and Missile Defense Command, 2004b)

Based on previous studies the direction of groundwater flow is consistently to the northeast, with a typical hydraulic gradient of 5 to 21 feet per mile (U.S. Army Space and Missile Defense Command, 2004b).

As of 1983, there were five usable wells on Fort Greely, located near the north end of Fort Greely, yielding an estimated combined capacity in excess of 4 million gallons per day (U.S. Army Corps of Engineers, 1996). Two new 500-gallon-per-minute wells were developed in 2001 during initial site preparation activities.

Water Quality

State primary standards protect drinking water quality by limiting the levels of specific contaminants that can adversely affect public health and are known or anticipated to occur in water. Secondary drinking water standards are non-enforceable guidelines regarding contaminants that may cause cosmetic effects (skin or tooth discoloration) or aesthetic effects (taste, odor, or color) in drinking water. The drinking water source at Fort Greely is the groundwater. Groundwater quality in the vicinity of Fort Greely also meets the state drinking water standards. Measurements of pH on Fort Greely were within the state standards.

3.13 ENVIRONMENTAL JUSTICE

Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*, was issued on 11 February 1994. Its objectives include development of federal agency implementation strategies, identification of minority and low-income populations where proposed federal actions have disproportionately high and adverse human health and environmental effects, and participation of minority and low-income populations. Although an environmental justice analysis is not mandated by NEPA, DoD has directed that NEPA will be used as the primary approach to implement the provision of the Executive Order. In addition, the Executive Order directs agencies dealing with environmental justice to pay special attention to subsistence issues for any communities that rely heavily on hunting, fishing, and gathering for their primary dietary/nutritional needs. Subsistence is discussed in section 3.9.

Region of Influence

The ROI for environmental justice encompasses the Southeast Fairbanks Census Area, specifically Big Delta, Fort Greely, and Delta Junction.

Affected Environment

The 2000 Census of Population and Housing for Alaska reports numbers including both minority and poverty residents. Minority populations are identified as Black or African American; American Indian, Eskimo or Aleut; Asian; Native Hawaiian or Pacific Islander; Hispanic or Latino; or other. Poverty status (used to define the low-income category) is reported as the number of families with income below poverty level. The 1999 poverty status indicates 10.4 percent of individuals at Fort Greely, 19.4 percent at Delta Junction, and 30 percent at Big Delta were below the poverty level (Alaska Department of Labor and Workforce Development, 2005). As of 2000; census figures indicated the Southeast Fairbanks Census Area had a population of 6,174, of which 1,167 persons, or 18.9 percent, were low income, and 1,463 persons, or 23.7 percent, were minority (FedStats.gov, 2005).

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4.0

ENVIRONMENTAL CONSEQUENCES

4.0 ENVIRONMENTAL CONSEQUENCES

To assess the potential for and significance of environmental impacts from the proposed program, a list of activities was developed (chapter 2.0) and the environmental setting was described, with emphasis on any special environmental sensitivities (chapter 3.0). This chapter describes the potential environmental consequences of the proposed activities by comparing them with the potentially affected environmental components. Sections 4.1 through 4.13 provide discussions of the potential environmental consequences of these activities. Potential impacts are discussed in terms of the No-action Alternative, the Proposed Action, and Cumulative Impacts. Sections 4.14 through 4.20 provide discussions of the following with regard to the Proposed Action activities: adverse environmental effects that cannot be avoided; conflicts with federal, state, and local land use plans, policies, and controls for the area concerned; energy requirements and conservation potential; irreversible or irretrievable commitment of resources; relationship between short-term use of the human environment and the maintenance and enhancement of long-term productivity; natural or depletable resource requirements and conservation potential; and *Federal Actions To Address Protection of Children and Environmental Health Risks and Safety Risks* (Executive Order 13045, as amended by Executive Order 13229).

As discussed in chapter 2.0, the proposed projects at the Fort Greely Cantonment Area, Missile Field Complex Area, and Allen Army Airfield Area may include the following types of activities:

- For building repair projects
 - Removal of asbestos-containing materials and lead-based paints
 - Disposal of building debris and hazardous materials and wastes
 - Trenching for utility installation or repair
 - Installation of new lighting
 - Repair or replacement of USTs or ASTs
- For new construction projects
 - Trenching for utility and communications lines
 - Clearing of trees and vegetation for new construction, installation of security fencing, and security zones
 - Potential disturbance of IRP sites
 - Excavation for foundations, curbs, sidewalks, and other concrete work
 - Leveling of terrain for building sites, parking lots, and access drives
 - Contouring of construction sites to provide for proper drainage
 - Landscaping and planting of grass, shrubs, and trees
 - Installation of building, parking lot, and street lighting
 - Installation of wastewater and sewer systems
 - Installation of ASTs

4.1 AIR QUALITY

4.1.1 NO-ACTION ALTERNATIVE

Under the No-action Alternative, the proposed projects would be carried out without the benefit of the comprehensive planning process defined in the Summary Development Plan, ICRMP, and IPMP. The proposed projects would be evaluated on an individual basis to determine potential impacts to the environment and to determine if additional environmental documentation is required. Current activities would continue at Fort Greely with no different impact to the regional ambient air quality and no exceedances of NAAQS or Alaska AAQS.

4.1.2 PROPOSED ACTION

In the event that proposed activities at the Cantonment Area, the Missile Field Complex Area, or the Allen Army Airfield Area involve processing, handling, or disposal of asbestos containing materials, procedures outlined in the Asbestos Removal, Transportation, and Disposal Procedure would be followed. The procedures established comply with the National Emission Standards for Hazardous Air Pollutants set forth in 40 CFR Part 61, Subpart M—National Emission Standard for Asbestos as they apply to Fort Greely. In addition, activities that would require the disturbance of lead-based paints would be reported to the Fort Greely Environmental Division and follow their direction to limit any environmental impacts, including those to the regional ambient air quality.

There is a potential for IRP sites to be disturbed during construction at the Cantonment Area, Missile Field Complex Area, or Allen Army Airfield Area at Fort Greely; consideration for the IRP would be taken. While at some IRP sites volatile organic compounds and semi-volatile organic compounds have been detected, disturbance of these sites would not cause additional impacts to air quality during any of the proposed activities.

4.1.2.1 Summary Development Plan

Cantonment Area

Planning for the Cantonment Area includes housing refurbishments and repairs and construction of new facilities. Housing refurbishments and repairs would occur within current facilities and would not cause ground disturbances.

The new construction would include additional proposed activities within the Cantonment Area such as construction of new buildings and facilities, cantonment wide installation of Installation Information Infrastructure Modernization Program (I3MP), relocation of an Army and Air Force Exchange Services (AAFES) Gas Pump, and miscellaneous paving. Emissions associated with construction activities such as these would include fugitive dust from ground disturbance and combustion byproducts from construction equipment. Although the construction would cause an increase in air pollutants, the impact would be both temporary and localized. Ground disturbance would generate dust in the immediate vicinity of the construction. The levels of dust generated would change through time depending on the level of activity, the weather, and the condition of the road. Increases in mobile emissions could also cause increases in ambient levels of some pollutants. Pollutants from mobile sources would include hydrocarbons, carbon monoxide, nitrogen oxides, and particle emissions. The primary pollutant of concern from mobile sources in Alaska is carbon monoxide.

Construction activities would be conducted in accordance with all existing air quality permits. It is anticipated that the proposed construction activities for the Fort Greely Cantonment Area would not cause exceedances of NAAQS or Alaska AAQS and would not have a long-term impact to air quality in the area. The implementation of standard dust suppression techniques and a vehicle maintenance program would minimize fugitive dust emissions and would help to maintain the area's current high air quality. Once construction ceases, air quality would return to its former levels.

Also proposed for implementation within the Cantonment Area are power plant upgrades and improvements, including a heating, ventilation, and air conditioning (HVAC) upgrade, a boiler upgrade, and the installation of feeder lines. The HVAC upgrade is anticipated to cause minimal air quality impacts, and installation of feeder lines would cause temporary air quality impacts as described for other construction activities above. The boiler upgrade would not pose a significant impact to the regional ambient air quality.

Missile Field Complex Area

Additional land clearing, trenching, and construction of additional facilities are proposed. These proposed activities would impact the regional ambient air quality as described above for construction activities in the Cantonment Area. Construction activities at the Missile Field Complex Area would be conducted in accordance with any air quality permit requirements. It is anticipated that the proposed construction activities for the Missile Field Complex Area would not cause exceedances of NAAQS or Alaska AAQS and would not have a long-term impact to air quality in the area. Once construction activities ceased, it is anticipated that air quality would return to its former levels.

Operational activities, including backup power at numerous facilities within the Missile Field Complex Area would not cause adverse impacts to air quality in the region. Air emissions are evaluated on a bi-annual basis to ensure conformity with existing air quality permits.

Allen Army Airfield Area

Activities that are planned for the Allen Army Airfield Area in the Proposed Action include trenching for utilities and communication lines, land clearing and earth moving, and instrument landing equipment installation. These proposed activities would impact the regional ambient air quality as described above for construction activities in the Cantonment Area. Construction activities at the Allen Army Airfield Area would be conducted in accordance with air quality permit requirements. It is anticipated that the proposed construction activities for the Allen Army Airfield Area would not cause exceedances of NAAQS or Alaska AAQS and would not have a long-term impact to air quality in the area. Once construction activities stopped, air quality would return to its former levels.

An increase in air traffic in and out of the Allen Army Airfield, from 2 to 3 flights per week up to approximately 40 flights per week, is not expected to exceed NAAQS or AAQS. The airfield is currently used for existing missions and emergency civilian use. It is anticipated that the proposed activities would increase emission levels from mobile sources, including aircraft. Emissions from stationary sources at Fort Greely would not be expected to increase. No substantial adverse impacts to air quality in the region as a result of past and current airfield operations have been identified.

4.1.2.2 Integrated Cultural Resource Management Plan

The purpose of Fort Greely's ICRMP is to achieve and maintain compliance with historic preservation laws. It is anticipated that the activities involved in implementation of the ICRMP at Fort Greely would not impact the regional ambient air quality.

4.1.2.3 Integrated Pesticide Management Plan

The IPMP is intended to provide guidance to maintain an effective pest control program at Fort Greely. The plan also emphasizes the use of proactive surveillance and non-chemical control methods, lower toxicity chemical use, and the lowest chemical quantity use to achieve pest control with minimal environmental impact. The plan has been established to operate in a manner that minimizes the risk of contamination to the environment, including air quality. Pesticides would not be applied during or before expected high winds or heavy rains to limit air quality impacts. In the event of a spill, notification and control of the spilled material would limit and prevent any air quality impacts. Therefore, there is expected to be no impact to the regional ambient air quality.

4.1.3 CUMULATIVE IMPACTS

The construction and modification activities proposed for the Cantonment Area, Missile Field Complex Area, and Allen Army Airfield Area by the Summary Development Plan, ICRMP, and IPMP are not anticipated to result in a significant impact to air quality within the ROI. Emissions produced during construction activities would add cumulatively to emissions from sources in the area, but these emissions would be temporary and are not anticipated to result in a measurable impact to air quality. The implementation of standard dust suppression techniques, including grass seeding in cleared areas once construction activities cease, would minimize the potential for cumulative impacts from fugitive dust. An increase in air traffic up to approximately 40 flights per week in and out of Allen Army Airfield would not result in a cumulative impact to the regional air quality.

In addition, the Draft C-17 Flight Training Areas EA for Elmendorf Air Force Base, Alaska includes potential training mission requirements of approximately 900 assault landings per year at Allen Army Airfield. The air emissions associated with these landings were calculated to be approximately 45 tons of oxides of nitrogen and 25 tons of carbon monoxide per year. These mobile source emissions from the C-17 aircraft would be intermittent and would be rapidly dispersed. Therefore, it is anticipated that proposed activities at the Allen Army Airfield, when combined with the emissions identified in the Draft C-17 Flight Training Areas EA, would not result in cumulative air quality impacts.

4.2 BIOLOGICAL RESOURCES

4.2.1 NO-ACTION ALTERNATIVE

Under the No-action Alternative, the proposed projects would be carried out without the benefit of the comprehensive planning process defined in the Summary Development Plan, ICRMP, and IPMP. New projects would be evaluated under NEPA on an individual basis. Potential impacts to biological resources would be evaluated through formal or informal consultation under Section 7 of the Endangered Species Act on a case by case basis. Activities previously identified and analyzed in other documents would continue at Fort Greely with no additional impacts.

4.2.2 PROPOSED ACTION

4.2.2.1 Summary Development Plan

Threatened and Endangered Species

No federally proposed or listed threatened, endangered, or candidate plant species are found in interior Alaska.

No known threatened, endangered, or candidate resident wildlife species occur on Fort Greely. The delisted peregrine falcon, which will continue to be monitored, may migrate through the area during spring and fall migration periods and therefore could potentially be disturbed by construction-related noise. However, there have been no confirmed sightings within 10 miles of Fort Greely; thus, no adverse impacts to threatened and endangered species are anticipated as a result of Summary Development Plan activities.

Environmentally Sensitive Habitat

No federally proposed or designated critical habitat has been identified on Fort Greely. No important spawning (anadromous) streams are located on the installation.

Cantonment Area

Vegetation

Housing refurbishment and repairs in the Cantonment Area are not anticipated to result in adverse impacts to vegetation since these activities would occur within current facilities and would not require ground disturbance.

Additional proposed activities within the Cantonment Area would include construction of new buildings and facilities, cantonment-wide installation of I3MP, relocation of an AAFES Gas Pump, miscellaneous paving, and installation of feeder lines. Impacts to vegetation from these activities would be minimal since the majority of the vegetation in the Cantonment Area is landscaped and maintained by mowing. New housing adjacent to the existing residential area would require the removal of approximately 14.5 acres of low growing spruce forest (black spruce, aspen, and balsam poplar). However, spruce forest is common throughout Interior Alaska, and additional spruce forest habitat is located adjacent to the areas to be cleared.

Wildlife

Housing refurbishments and repair in the Cantonment Area are anticipated to result in minimal adverse impacts to wildlife since these activities would occur within current facilities and would not cause ground disturbance.

Impacts to wildlife from the additional proposed activities within the Cantonment Area described above could include loss of approximately 14.5 acres of habitat, displacement of wildlife, increased stress, and disruption of daily/seasonal behavior. Typical noise levels 50 feet from construction equipment ranges from 70 to 98 dBA. The combination of increased noise levels and human activity would likely displace some small mammals and birds that forage, feed, nest, or have dens within this 50-foot radius. However, additional similar habitat is located throughout the Cantonment Area.

Although construction activities could cause flushing (birds suddenly flying up), this is a common reaction to sudden natural sounds that only slightly increases the energy expenditure of individual birds. Any removal of migratory bird nests would be done in accordance with U.S. Fish and Wildlife Service-approved Fort Greely policy. The presence of personnel may cause some wildlife to avoid the area, at least temporarily, but could therefore reduce the potential for impacts from elevated noise levels. Wildlife in the immediate area could be startled by construction and operation noise and possibly avoid or leave the area, or become accustomed to the increased noise and human presence. Any disturbances that occur as a result of construction and operation of facilities within the Cantonment Area are not expected to alter migration patterns or wildlife corridors.

Missile Field Complex Area

Vegetation

Additional land clearing, trenching, and construction of additional facilities are proposed for the Missile Field Complex Area. These proposed activities would remove low growing spruce forest (black spruce, aspen, and balsam poplar) surrounding the current Missile Field Complex. However, spruce forest is common throughout Interior Alaska, and additional spruce forest habitat is located adjacent to the areas to be cleared.

Wildlife

Impacts to wildlife from activities proposed for the Missile Field Complex Area would be similar to those addressed above for the Cantonment Area. The area that would be lost as moose habitat from the proposed clearing would be within the habitat area previously defined as lost and analyzed in the GMD VOC Supplemental EA. Construction activities would be conducted in accordance with all applicable Fort Greely and DoD regulations to further minimize the potential for impacts. Overall, the impacts of construction and operation activities on wildlife would be minimal.

Wildlife in the immediate area (birds, bear, gray wolf, red fox, marten, coyote, wolverine, and moose) could be startled by construction noise and possibly leave the area permanently, temporarily avoid or leave the area during construction, or likely become accustomed to the increased noise and human presence. The presence of personnel may cause wildlife to avoid the area, at least temporarily, but could therefore reduce the potential for impacts from elevated

noise levels. The disturbance from the short-term noise associated with construction is not expected to alter migration patterns.

Environmentally Sensitive Habitat

Wetlands can be impacted indirectly by disturbance to adjacent land that results in degradation of water quality from chemical or sedimentary runoff. Indirect disturbance to wetlands would be minimized by implementing appropriate techniques to control runoff and other Best Management Practices such as stabilizing fill slopes from erosion and the use of hay bales to filter sediment from storm water runoff from construction sites, which would minimize water quality impacts to any wetlands that could occur adjacent to the site.

As previously analyzed in the GMD VOC Supplemental EA, the proposed southern boundary fence crosses approximately 150 feet of emergent persistent semi-permanently flooded wetland. If upgrades to the trail crossing the wetland are necessary, the filling of about 1 acre of wetlands would be needed and a 404 Nationwide Permit from the U.S. Army Corps of Engineers would be referenced.

Allen Army Airfield Area

Vegetation

Impacts to vegetation as a result of trenching for utilities and communication lines, land clearing and earth moving, instrument landing equipment installation, and disturbance of IRP sites in the Allen Army Airfield Area would be minimal since the majority of the vegetation in the area is landscaped or maintained by mowing.

Wildlife

Proposed activities in the Allen Army Airfield Area would result in impacts to wildlife as described above for construction activities in the Missile Field Complex Area and Cantonment Area.

4.2.2.2 Integrated Cultural Resource Management Plan

The ICRMP provides guidelines for achieving and maintaining compliance with historic preservation laws. These activities would generally not result in ground disturbance and therefore activities involved in implementing the ICRMP at Fort Greely would not impact biological resources.

4.2.2.3 Integrated Pesticide Management Plan

The IPMP which emphasizes the use of proactive surveillance and non-chemical control methods, lower toxicity chemical use, and the lowest chemical quantity use to achieve pest control with minimal environmental impact has been established to operate in a manner that minimizes the risk of contamination to the environment. Pesticides would not be applied during or before expected high winds or heavy rains to limit the potential for effects to non-targeted species. Therefore, no impact to non-targeted species is anticipated.

4.2.3 CUMULATIVE IMPACTS

The construction and modification activities proposed for Fort Greely in the Summary Development Plan, ICRMP, and IPMP are not anticipated to result in a significant impact to biological resources within the ROI. Biological impacts would include the loss of a small amount of low growing spruce forest habitat at Fort Greely. Given the small amount of loss of wildlife habitat in the region of Fort Greely from past and current development and the vast amount of undeveloped land in the area, the additional loss of habitat from the proposed installation would not result in a substantial cumulative reduction in habitat for wildlife use. No other activities have been identified at Fort Greely that when combined with the Proposed Action would result in cumulative impacts to biological resources.

4.3 CULTURAL RESOURCES

4.3.1 NO-ACTION ALTERNATIVE

Under the No-action Alternative, the proposed projects would be carried out without the benefit of the comprehensive planning process defined in the Summary Development Plan, ICRMP, and IPMP. New and ongoing projects at Fort Greely would continue to be evaluated for impacts to cultural resources through consultation under Section 106 of the NHPA on a case by case basis. However, without the ICRMP, no procedures for integrating Section 106 requirements with installation-wide planning would be standardized.

4.3.2 PROPOSED ACTION

4.3.2.1 Summary Development Plan

Cantonment Area

Within the Cantonment Area the Proposed Actions could potentially require repair and new construction activities as described in section 2.1.1. With the exception of historic properties, previous archaeological surveys indicate that the Cantonment Area is generally considered clear of cultural resource concerns due to the lack of subsurface artifacts and extensive disturbance from previous clearing and operational activities (U.S. Army Space and Missile Defense Command, 2002a).

As part of the Army's requirements for Base Realignment and Closure, a 1997 Architectural Inventory identified 26 Cold War buildings within the Cantonment Area that met the National Register eligibility requirements. Under a Memorandum of Agreement, Fort Greely and the SHPO agreed to mitigate any impacts to these buildings by preparing a Historic American Building Survey recordation. The completed survey and Memorandum of Agreement allows the Army to transfer, remodel, rehabilitate, or demolish any of the structures. Therefore, there are no known archeological sites or historic properties of national significance that would be adversely affected by any new construction, repair, or infrastructure improvements as specified under the Proposed Action.

Missile Field Complex Area

The Proposed Actions could potentially require construction activities as described in section 2.1.2 for the Missile Field Complex Area. Previous archaeological surveys have indicated that cultural resources are not present in the areas occupied by the Missile Field Complex Area. Given the types of locations within which prehistoric and historic archaeological resources typically occur, the likelihood for them to be encountered during the course of proposed activities is very low (U.S. Army Space and Missile Defense Command, 2002a). In addition, the three culturally significant sites that have been identified east and southeast of the missile area are considered outside of the ROI. Consequently, no adverse impacts to cultural resources are expected to occur as a result of the Proposed Actions related to the Missile Field Complex Area.

Allen Army Airfield Area

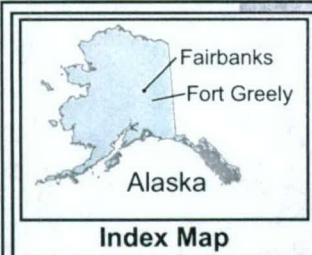
Within the Allen Army Airfield Area the Proposed Actions could potentially require construction activities as described under section 2.1.3. Due to a lack of surface and subsurface artifacts, most of the area is considered clear of cultural resources concerns and classified within a zone of low probability for potential archaeological sites. (U.S. Army Space and Missile Defense Command, 2002a) In addition, the immediate airfield area is heavily disturbed from previous clearing and operational activities, and the likelihood of historic properties being discovered is low. Although culturally significant sites have been identified in the southeast portion of the Allen Army Airfield Area, they are outside the Proposed Action areas. Therefore, no adverse impacts to cultural resources are expected to occur as a result of the Proposed Actions within the Allen Army Airfield Area.

4.3.2.2 Integrated Cultural Resource Management Plan

Cantonment Area

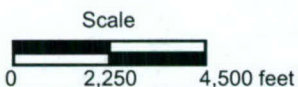
The Fort Greely ICRMP (appendix D) would be expected to have a positive beneficial effect on the protection and investigation of cultural resources. A systematic comprehensive installation archeological survey would be performed, suspected cultural sites would be further investigated, new legislation to identify and protect potential cultural resources would be addressed, and any verified culturally significant sites would be protected and preserved. Presently, a comprehensive archeological survey is planned to begin in May 2005 within areas that have not been surveyed (figure 4-1).

For areas that have not been surveyed, protection of cultural resources prior to ground disturbing activities would be ensured by an archeological site survey of the project areas by a trained archaeologist. As SOPs stipulate in the Fort Greely ICRMP, in the unlikely event of cultural related items being discovered by any project activity or operation, actions would cease in the immediate area until the Fort Greely Cultural Resources Manager (CRM) could determine if the resources represented are an isolated artifact or undisturbed archaeological site. In the event of an undisturbed archaeological site discovery, the CRM would initiate the Section 106 process to determine the site's National Register eligibility and, if necessary, determine a course of action to avoid or mitigate site disturbance, in consultation with the SHPO. Subsequent actions would follow the guidance provided; therefore, no impacts to cultural resources are anticipated.



EXPLANATION

- Installation Boundary
- Buildings
- Surveyed Areas
- Areas to be Surveyed
- Missile Field Complex Area
- Alyeska Pipeline



Fort Greely Cultural Resources Surveyed Areas

Fort Greely, Alaska

Figure 4-1

050407 Survey 1

Fort Greely Installation EA

Missile Field Complex Area

The Proposed Actions could potentially require construction activities as described in section 2.1.2 in the Missile Field Complex Area. The implementation of the ICRMP would be similar to that described for the Cantonment Area. Although fencing and clearing activities would extend into areas that do not have surveys, a comprehensive archaeological survey is planned to begin in May 2005 and will include areas that have not been surveyed.

Allen Army Airfield Area

The Proposed Actions could potentially require construction activities as described in section 2.1.3 for the Allen Army Airfield Area. The implementation of the ICRMP would be similar to that described for the Cantonment Area. Any area that has not been surveyed would be included as part of a comprehensive archaeological survey.

4.3.2.3 Integrated Pesticide Management Plan

The IPMP is intended to provide guidance to maintain an effective pest control program at Fort Greely. The plan also emphasizes the use of proactive surveillance and non-chemical control methods, lower toxicity chemical use, and the lowest chemical quantity use to achieve pest control with minimal environmental impact. The plan has been established to operate in a manner that minimizes the risk of contamination to the environment, including cultural resources. In the event of a spill, notification and control of the spilled material would limit any impacts to cultural resources.

4.3.3 CUMULATIVE IMPACTS

The proposed activities discussed in section 2.1 when added to past and present actions at Fort Greely are not expected to result in additive or cumulative impacts to cultural resources. No other activities have been identified that would result in cumulative impacts to cultural resources. The ICRMP would have a positive effect on the protection and investigation of cultural resources and minimize any potential for cumulative impacts to cultural resources.

4.4 GEOLOGY AND SOILS

4.4.1 NO-ACTION ALTERNATIVE

Under the No-action Alternative, the proposed projects would be carried out without the benefit of the comprehensive planning process defined in the Summary Development Plan, ICRMP, and IPMP. Minor, localized impacts due to soil erosion would be expected for each project; however, soil management practices would be implemented to reduce the impacts. Activities previously identified and analyzed in other documents would continue at Fort Greely with no additional impacts.

4.4.2 PROPOSED ACTION

4.4.2.1 Summary Development Plan

Cantonment Area

Within the Cantonment Area the Proposed Actions could potentially require repair activities and new construction as described in section 2.1.1. Potential soil impacts would be associated with soil erosion through soil disturbing activities such as potential trenching, excavation, and clearing of vegetation (trees). Fort Greely soils are predominantly well drained sands and gravels overlaid within a thin organic layer at the surface. Surface relief is relatively flat, and the area receives an average annual precipitation of 11.1 inches and moderate winds; therefore, the potential for soil erosion is generally considered minimal. Although direct impacts to soils have the potential to occur at the new construction and repair sites, adverse effects would be minimal due to the short duration and would be limited to the immediate vicinity of the construction site.

Soil management practices would be implemented to diminish the potential for soil erosion. Such measures would include but are not limited to minimizing the amount of soil exposed to the elements, creating sediment basins to control flow of water, and adding a protective artificial or natural covering to any exposed areas or slopes to augment soil stability and filter sediment from storm water runoff.

Potential soil contamination could occur in the event of an accidental fuel spill or disturbance of any of the recognized contaminated sites. In the unlikely event of an accidental fuel spill, fuel would be rapidly buffered by the sandy soils and an accident response team would be available immediately to minimize any adverse effects and dispose of the recovered fuel following standard hazardous waste management procedures.

Given that remediation efforts are currently underway, the Directorate of Public Works Environmental Office would review all dig permit applications and issue appropriate controls and warning for any trenching or digging activities to mitigate the potential disturbance of contaminated sites. Therefore, no adverse impacts to geology and soils are expected to occur.

Potentially hazardous and nonhazardous wastes generated from construction and repair activities are not expected to have adverse impacts to geology or soils. Wastes would be segregated as nonhazardous and hazardous, and possibly special wastes for collection and disposal. Nonhazardous waste would be removed for appropriated disposal at the landfill. Hazardous wastes would be collected for disposal in accordance with applicable federal, State of Alaska, and DoD requirements. (U.S. Army Space and Missile Defense Command, 2003)

All new construction activities within the Cantonment Area would incorporate seismic design parameters consistent with the nature of the facility and its geologic setting. Facility construction would incorporate earthquake-resistant designs to reduce the potential impacts occurring from a significant seismic event. Thus, no adverse impacts would be expected.

Missile Field Complex Area

The Proposed Actions could potentially require construction activities as described in section 2.1.2 for the Missile Field Complex Area. Because the proposed activities are similar to those described for the Cantonment Area, the potential impacts would be the same. In addition, the

measures described above to minimize impacts to soils in the Cantonment Area would also be implemented in the Missile Field Complex Area, and no adverse impacts would be expected.

Allen Army Airfield Area

The Proposed Actions could potentially require construction activities as described in section 2.1.3 for the Allen Army Airfield Area. Because the proposed activities are similar to those described for the Cantonment Area, the potential impacts would be the same. In addition, the measures described above to minimize impacts to soils in the Cantonment Area would also be implemented in the Allen Army Airfield Area, and no adverse impacts would be expected.

4.4.2.2 Integrated Cultural Resource Management Plan

The purpose of Fort Greely's ICRMP is to achieve and maintain compliance with historic preservation laws. It is anticipated that the implementation of the ICRMP at Fort Greely would not impact geology and soils.

4.4.2.3 Integrated Pesticide Management Plan

The IPMP is intended to provide guidance to maintain an effective pest control program at Fort Greely. The plan also emphasizes the use of proactive surveillance and non-chemical control methods, lower toxicity chemical use, and the lowest chemical quantity use to achieve pest control with minimal environmental impact. The plan has been established to operate in a manner that minimizes the risk of contamination to the environment, including geology and soils. In the event of a spill, notification and control of the spilled material would limit and prevent any impacts to geology and soils.

4.4.3 CUMULATIVE IMPACTS

The proposed activities discussed in section 2.1, when added to past and present actions at Fort Greely, are not expected to result in additive or cumulative impacts to geology and soils. Erosion during construction activities would add cumulatively to erosion in the area, but these impacts would be temporary and are not anticipated to result in a measurable cumulative impact to soils. No other activities have been identified that would result in cumulative impacts to geology and soils.

4.5 HAZARDOUS MATERIALS AND WASTE

4.5.1 NO-ACTION ALTERNATIVE

Under the No-action Alternative, the proposed projects would be carried out without the benefit of the comprehensive planning process defined in the Summary Development Plan, ICRMP, and IPMP. Ongoing projects would continue to follow hazardous materials and hazardous waste management plans with no additional impacts to hazardous material or hazardous waste on Fort Greely. IRP activities and coordination with state and federal agencies would continue.

4.5.2 PROPOSED ACTION

4.5.2.1 Summary Development Plan

Cantonment Area

Within the Cantonment Area the Proposed Actions could potentially require repair activities and new construction as described in section 2.1.1. Construction and repair activities would be centralized to the greatest extent possible, would occur at the project sites, and would be limited to specified construction areas. Hazardous materials and waste management would be performed in accordance with ongoing Fort Greely procedures, as well as applicable federal, state, and local regulations.

Though impacts to the environment are not expected from the presence of potentially hazardous materials and the generation of wastes, Best Management Practices would be incorporated into design, construction, and repair plans. Such plans may be used during the construction period to minimize the amount of hazardous materials stored, the threat of their accidental and unplanned release into the environment, and the quantity of hazardous waste generated.

Wastes would be segregated as non-hazardous and hazardous, and possibly special wastes for collection and disposal. Non-hazardous waste would be removed for appropriate disposal immediately at the landfill or first incinerated as appropriate. Hazardous wastes would be collected for disposal in accordance with applicable federal, state, and DoD requirements. No permitted hazardous waste treatment or disposal facilities exist on Fort Greely; therefore, all hazardous waste would be transferred by licensed hazardous waste transporters for appropriate treatment or disposal.

Any spill or discovery of a hazardous material or hazardous waste during construction would be quickly reported, investigated, and remediated in accordance with the Spill Notification and Response component of the Fort Greely Environmental Procedures and the contractor's SWPPP and Project Spill Prevention, Control, and Countermeasure Plan. These procedures identify the appropriate points of contact for reporting an incident.

The potential exists for impacts from the uncontrolled release of hazardous materials and wastes due to the disturbance of existing contaminated areas. Within the Fort Greely Cantonment Area numerous contaminated sites have been classified as Further Action Required Sites and No Further Remedial Action Planned Sites. Under such classifications, further investigation or remediation at the sites would be funded through the IRP or the compliance remediation budget for Fort Greely. Until the site is completely remediated, it is under administrative control. These IRP related sites are maintained in the Fort Greely Geographic Information System, a tool used in the Dig Permit process for notifying contractors, workers, and base personnel of the potential for contamination to exist at the site. Prior to any site related activities Fort Greely's Directorate of Public Works Environmental Office would review all dig permit applications and would issue appropriate Best Management Practices, controls, and appropriate warning to minimize the disturbance of contaminated areas of concern. If land disturbance activities at the site encounter contamination, ADEC would be notified, a sampling and treatment plan developed, and the contaminated material would be properly remediated or disposed of in accordance with applicable regulations.

Proposed activities with the potential to disturb IRP sites include the I3MP communication system upgrades. Locales with the most potential for being disturbed by the Proposed Action include areas in the vicinity of Building 606 (power plant), Building 675, Building 658, Building 614 (gas station), Building 615, Building 608, Building 627, Building 660, Building 601 (commissary/warehouse storage), Building 361, Building 628, Building 626, Nuclear Waste Pipeline, and Landfill 4 and 5 (figure 2-1). Fort Greely's Directorate of Public Works Environmental Office would review all dig permit applications and would issue appropriate Best Management Practices, controls, and appropriate warnings to completely avoid or minimize the disturbance of contaminated areas of concern. If land disturbance activities at the site encounter contamination, the contaminated material would be properly remediated or disposed of in accordance with applicable regulations. (U.S. Army Space and Missile Defense Command, 2005a) The golf course would be designed to avoid any IRP related sites.

Missile Field Complex Area

The potential impacts from facility construction activities in the Missile Field Complex Area would be similar to those described for the Cantonment Area. The tree clearing and ground disturbance around the missile field security fence and installation of the southern boundary fence have the potential to result in the release of hazardous materials and wastes due to disturbance of the CANOL Pipeline Tank Farm west of the missile field, Landfill 6 northeast of the missile field, Range 2, south of the missile field, and former World War II Tent Site north of the missile field. The CANOL Pipeline Tank Farm and Range 2 have been classified as a Further Action Required Sites. Landfill 6 and the former World War II Tent Site have been classified as No Further Remedial Action Planned Sites. Under such classifications, further investigation or remediation at the sites would be funded through the IRP or the compliance remediation budget for Fort Greely. Until the site is completely remediated, it is under administrative control. IRP related sites are maintained in the Fort Greely Geographic Information System, a tool used in the Dig Permit process for notifying contractors, workers, and base personnel of the potential for contamination to exist at the site.

The CANOL Pipeline Tank Farm may require ground disturbances if it is necessary to remove earthen berms as part of the enhanced security measures. A 2004 soil gas survey at the CANOL Pipeline Tank Farm detected elevated levels of total petroleum hydrocarbons that exceeded cleanup levels. The U.S. Army Space and Missile Defense Command is currently planning a field program to sample the berms that surround each former tank location and other potential areas where soil contamination may have most likely occurred. A follow-on program to collect deeper soil samples will be developed based on the results from the first mobilization. Results from these field investigations will be used to decide appropriate actions for disposal of the soil from the berms. Soil with contaminant concentrations exceeding clean up levels would be transported offsite for disposal. Soil that complies with State of Alaska cleanup levels would be spread over the site as the berms are leveled. (U.S. Army Space and Missile Defense Command, 2005b)

Prior to any site related activities, Fort Greely's Directorate of Public Works Environmental Office would review all dig permit applications and would issue appropriate Best Management Practices, controls, and appropriate warning to minimize the disturbance of contaminated areas of concern. If land disturbance activities at the site encounter contamination, ADEC would be notified, a sampling and treatment plan developed, and the contaminated material would be properly remediated or disposed of in accordance with applicable regulations. (U.S. Army Space and Missile Defense Command, 2005a)

Landfill 6 has been classified as a No Further Remedial Action Planned site. Under administrative control, the Dig Permit process would be used for notifying contractors, workers, and base personnel of the potential for contamination to exist at the site. Fort Greely's Directorate of Public Works Environmental Office would review all dig permit applications and would issue appropriate Best Management Practices, controls, and appropriate warning to minimize the disturbance of the landfill cover. If the integrity of the landfill cover is compromised, actions would be taken to restore the cover. If landfill materials are exposed, ADEC would be notified, and the landfill materials would be investigated, following proper health and safety protocols. A remediation plan would be developed, and the contaminated material would be properly remediated or disposed of in accordance with applicable regulations. (U.S. Army Space and Missile Defense Command, 2005a)

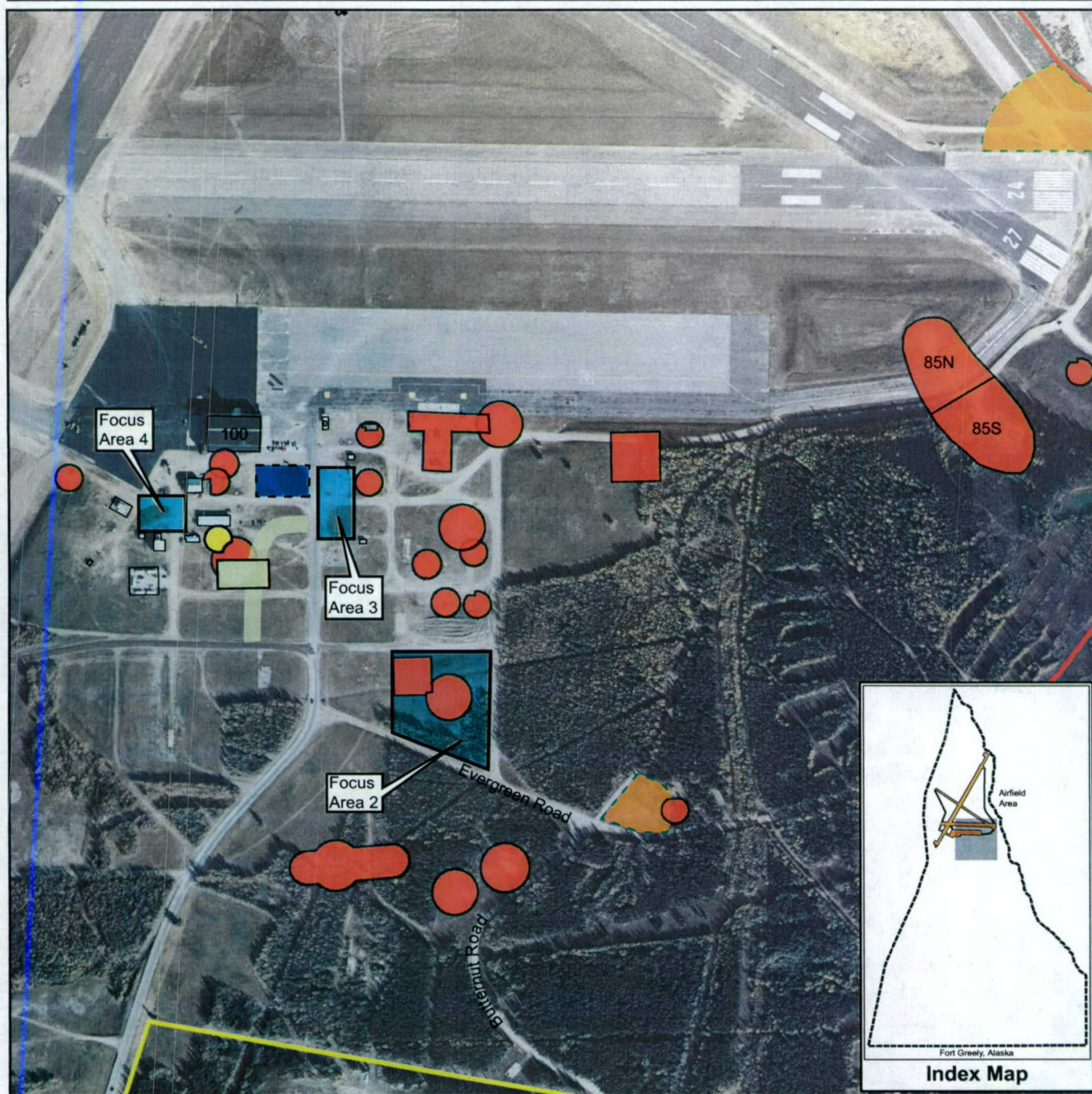
The installation of the Southern Boundary Fence along the edge of the Range 2 site is not likely to disturb any contaminated areas. Fort Greely's Directorate of Public Works Environmental Office would review all dig permit applications and would issue appropriate Best Management Practices, controls, and appropriate warnings to completely avoid or minimize the disturbance of contaminated areas of concern. If land disturbance activities at the site encounter contamination, ADEC would be notified, a sampling and treatment plan developed, and the contaminated material would be properly remediated or disposed of in accordance with applicable regulations. (U.S. Army Space and Missile Defense Command, 2005a)

The clearing of vegetation would also impact the World War II Tent Site. This site is currently classified as a No Further Remedial Action Planned Site with administrative control. Although the area was limited to troop maneuvers and small arms and conventional weapons, the potential exists for the presence of small arms ordnance. The Dig Permit process would be used for notifying contractors, workers, and base personnel of the potential for contamination to exist at the site. Fort Greely's Directorate of Public Works Environmental Office would review all dig permit applications and would issue appropriate Best Management Practices, controls, and appropriate warning to minimize the disturbance of contaminated areas of concern. If land disturbance activities at the site encounter contamination, ADEC would be notified, a sampling and treatment plan developed, and the contaminated material would be properly remediated or disposed of in accordance with applicable regulations. (U.S. Army Space and Missile Defense Command, 2005a)

Allen Army Airfield Area

The potential impacts from facility construction activities at the Allen Army Airfield Area for the proposed fire station, parking area, and runway and taxiway upgrades would be similar to those described for the Cantonment Area in section 4.5.2.1. Construction of the fire station has the potential to result in the release of hazardous materials and wastes due to disturbance of Compliance Restoration Site 101.

As shown on figure 4-2, a number of sites have been classified as Further Action Required Sites. Soil gas surveys or soil samples within the vicinity indicate soil contamination that exceeds cleanup levels. Further investigation or remediation at these sites would be funded through the IRP or the compliance remediation budget for Fort Greely. Until a site is completely remediated, it is under administrative control. IRP related sites are maintained in the Fort



EXPLANATION

- Administrative Controls Sites
- Further Action Required Sites
- Proposed Fire Station and Access
- 2005 Soil Gas Survey Area
- Airfield Fence
- Cantonment Fence

Proposed Parking Area



NORTH

Scale

0 292 584 feet

050412 Action Sites Airfield

Fort Greely Installation EA

Allen Army Airfield Area IRP Related Sites

Fort Greely, Alaska

Figure 4-2

Greely Geographic Information System, a tool used in the Dig Permit process for notifying contractors, workers, and base personnel of the potential for contamination to exist at the site. Fort Greely's Directorate of Public Works Environmental Office would review all dig permit applications and would issue appropriate Best Management Practices, controls, and appropriate warning to minimize the disturbance of contaminated areas of concern. If land disturbance activities at a site encounter contamination, ADEC would be notified, a sampling and treatment plan developed, and the contaminated material would be properly remediated or disposed of in accordance with applicable regulations. (U.S. Army Space and Missile Defense Command, 2005a) As part of the overall remediation process, the U.S. Army Space and Missile Defense Command has ongoing activities that are designed to define the source of volatile organic compounds. Proposed activities in 2005 include additional soil gas surveys near monitoring well MW-2 and near an underground storage tank east of the Evergreen and Butternut Road intersection; deep soil borings for Focus Areas 2, 3, and 4; and a single monitoring well located in Focus Area 2 to investigate contaminants in the soil and groundwater (figure 4-2). (U.S. Army Space and Missile Defense Command, 2005b)

Firefighter Training Area 85 North is a former fire training site where the remnants of a successful bioventing system may require removal as part of the airfield upgrades. As a result of the 2004 data collection at Area 85 North and 85 South, the U.S. Army Space and Missile Defense Command has planned additional data collection. Objectives will focus on delineating the vertical extent of contamination at the two locations by analyzing boring samples from inside and outside the Fire Training Pits and removal of the biovent system from the training pits. (U.S. Army Space and Missile Defense Command, 2005a)

Proposed joint use of the Allen Army Airfield could increase the level of flight activities. Additional fuel and fuel storage could be required to meet the increased number of flights. Although specific site layout and operations information is not available, it is anticipated that through established SOPs and the Hazardous Materials and Waste Management Procedures no adverse impacts would occur.

4.5.2.2 Integrated Cultural Resource Management Plan

The purpose of Fort Greely's ICRMP is to achieve and maintain compliance with historic preservation laws. It is anticipated that the implementation of the ICRMP at Fort Greely would not impact hazardous materials and hazardous waste management activities.

4.5.2.3 Integrated Pesticide Management Plan

Implementation of the IPMP would result in positive impacts since it would establish an appropriate organizational structure to manage resources as well as coordination with pest control efforts. The IPMP would ensure that pesticides/herbicides would be under the supervision of properly trained and certified personnel; therefore, the potential for pesticides or herbicides to contaminate other resources on the installation would be minimal.

4.5.3 CUMULATIVE IMPACTS

The construction and modification activities proposed for the Cantonment Area, Missile Field Complex Area, and the Allen Army Airfield Area by the Summary Development Plan, ICRMP, and IPMP are not anticipated to result in a significant impact to hazardous materials and

hazardous waste management within the ROI. Although hazardous waste generated during the proposed activities would add cumulatively to the total hazardous waste generated at Fort Greely, the storage of hazardous waste would be temporary and would not result in a measurable cumulative impact to the management of hazardous materials or hazardous waste.

4.6 HEALTH AND SAFETY

This section addresses the potential impacts to health and safety associated with the implementation of the Summary Development Plan, ICRMP, and IPMP at Fort Greely.

4.6.1 NO-ACTION ALTERNATIVE

Under the No-action Alternative, the proposed projects would be carried out without the benefit of the comprehensive planning process defined in the Summary Development Plan, ICRMP, and IPMP. Ongoing projects would continue to follow existing management plans and SOPs with no increased risk to health and safety on Fort Greely.

4.6.2 PROPOSED ACTION

4.6.2.1 Summary Development Plan

Cantonment Area

Proposed Action activities at the Cantonment Area include refurbishment and repairs to existing facilities and construction of new facilities. The construction of new facilities is routinely accomplished for both military and civilian operations and presents only occupational-related effects on the safety and health of workers involved in the performance of construction activity. All facilities would be designed to take into account regional natural hazards such as earthquakes, which would reduce the potential for one of these environmental factors to cause a mishap to any of the proposed facilities. Materials would be delivered to the sites by truck in accordance with U.S. Department of Transportation and Fort Greely regulations. Construction and repairs would be conducted in accordance with applicable regulations and permits and no impacts to health and safety are anticipated. In addition, any removal of asbestos-containing materials, lead-based paint, or disposal of hazardous materials would be conducted in accordance with existing management plans and SOPs at Fort Greely and would not impact the health and safety of workers or the public.

It is anticipated that HVAC and boiler upgrades, along with the installation of feeder lines at the existing power plant would also only present occupational-related effects to the health and safety of workers. These effects would not impact the health and safety of the workers, as these upgrades would be conducted according to applicable permits and regulations.

Once the proposed AAFES Gas Pump is relocated, it is anticipated that operations would return to previous levels and in accordance to previously established SOPs and regulations. The operation of this pump would not impact health and safety.

Also proposed for Fort Greely's Cantonment Area is a Hazmat Storage Building. This warehouse facility would be used to store hazardous and other waste prior to disposal. A site specific hazardous material management plan and Spill Prevention, Control, and Countermeasures Program would be developed to minimize any potential health and safety impacts.

Missile Field Complex Area

Proposed repair and construction activities at the Missile Field Complex Area would have similar impacts as described previously for the Cantonment Area and would be conducted in accordance with applicable regulations and permits, and no impacts to health and safety are anticipated.

The purpose in constructing the security fences at the Missile Assembly Building and the southern boundary fence is to provide force protection and program safety. These fences are anticipated to enhance the health and safety level of the Missile Field Complex Area and the safety of Fort Greely personnel.

Allen Army Airfield Area

Proposed repair and construction activities in the Allen Army Airfield Area would have similar impacts as described previously for the Cantonment Area and would be conducted in accordance with applicable regulations and permits, and no impacts to health and safety are anticipated. Appropriate procedures would be followed to ensure safety during the intermittent use of the airfield.

While the current level of fire protection services at Fort Greely is considered adequate to provide coverage of mission activities in the Allen Army Airfield Area, a fire station is proposed for operation to increase fire protection for current and future levels of operation. It is anticipated that the new fire station would increase the level of health and safety in the Allen Army Airfield Area by reducing the response time.

The proposed joint use of Allen Army Airfield would include an increase in the number of flights; however, with established regulations and security fencing, it is anticipated that there would be no adverse impacts to the health and safety of personnel or the public. In addition, continued use of the airspace above Fort Greely by the Air Force for training activities would not be affected.

Careful consideration would be taken when excavating in all areas of the Cantonment Area, Missile Field Complex Area, or the Allen Army Airfield Area in conjunction with the IRP sites. As discussed in section 4.5, Hazardous Materials and Hazardous Waste, Fort Greely's Directorate of Public Works Environmental Office would review all dig permit applications and would issue appropriate Best Management Practices, controls, and appropriate warning to minimize the disturbance of contaminated areas of concern. If land disturbance activities at the site encounter contamination, the contaminated material would be properly remediated or disposed of in accordance with applicable regulations. (U.S. Army Space and Missile Defense Command, 2004c)

4.6.2.2 Integrated Cultural Resource Management Plan

The purpose of the ICRMP is to meet requirements set by AR 200-4 and to maintain cooperation and consultation with the Advisory Council on Historic Preservation, SHPO, interested parties, and the public. It is anticipated that the implementation of the ICRMP would not impact health and safety at Fort Greely.

4.6.2.3 Integrated Pesticide Management Plan

The implementation of the proposed IPMP at Fort Greely would be a positive impact to the health and safety environment. The proposed IPMP includes using non-chemical pest control methods whenever feasible, the least hazardous EPA-approved pesticides available, and the lowest effective chemical quantity. The plan outlines proper pesticide selection and purchase, transportation and storage, handling and use, spill notification and control, pollution prevention and waste minimization, and record keeping protecting health and safety, environment, and property at Fort Greely. It is anticipated that with the safety procedures and management outlined in the IPMP that the health and safety of personnel and the public surrounding Fort Greely would be improved.

4.6.3 CUMULATIVE IMPACTS

Potential cumulative impacts are not anticipated at Fort Greely with the combination of the proposed activities and ongoing health and safety risk from current military activities. No new or future activities have been identified that could add to potential cumulative impacts. Some of the proposed activities would improve the health and safety of personnel.

4.7 LAND USE

4.7.1 NO-ACTION ALTERNATIVE

Under the No-action Alternative, the proposed projects would be carried out without the benefit of the comprehensive planning process defined in the Summary Development Plan, ICRMP, and IPMP. Land use planning would lack the comprehensive resource reviews and coordination that the implementation of the Summary Development Plan is designed to ensure.

4.7.2 PROPOSED ACTION

4.7.2.1 Summary Development Plan

Cantonment Area

Within the Cantonment Area the Proposed Actions could potentially require repair activities and new construction as described in section 2.1.1. Although the potential exists for land to be altered to accommodate new facilities, all construction and repair activities would be of similar nature to the existing facilities and primarily confined to within the immediate construction area. In addition, the Proposed Action would affect a very small portion of Fort Greely, and most of the proposed construction would be contained within the mixed-use developed area shown on figure 3-1. Proposed new housing construction would also occur on approximately 14.5 acres of land currently designated as natural area. This represents a small percentage of natural area

on Fort Greely and is adjacent to the existing residential area. Therefore, no adverse impacts related to land use would occur from this construction within the Cantonment Area.

The land status of existing contaminated areas, identified as IRP related sites on figures 2-1, 2-2, and 2-4 takes precedence over the designated land use of the area shown on figure 3-1. Management of the use of these areas is coordinated through the Dig Permit process. This process would be used for notifying contractors, workers, and base personnel of the potential for contamination to exist at the site. Fort Greely's Directorate of Public Works Environmental Office would review all dig permit applications and would issue appropriate Best Management Practices, controls, and appropriate warning to minimize the disturbance of contaminated areas of concern. Therefore, no adverse impacts to land use are expected to occur.

Adjacent land use includes the Donnelly East and West Training ranges, which are generally compatible with activities at Fort Greely. There are no local or state zoning or land use plans or guidelines for the area. Therefore, changes to land use due to the proposed activities would not conflict with any federal, state, or local land use plans or policies. (U.S. Army Space and Missile Defense Command, 2002a)

Missile Field Complex Area

The Proposed Action includes construction activities as described in section 2.1.2 for the Missile Field Complex Area. The tree clearing and ground disturbance area around the missile field security fence includes approximately 520 acres of land. As shown on figure 3-1 this area is designated as missile field area. Therefore, no adverse impacts to land use are expected from the Proposed Action.

Allen Army Airfield Area

The Proposed Actions could potentially require construction activities as described in section 2.1.3 for the Allen Army Airfield Area. The potential joint use area west of the Allen Army Airfield taxiway would be in an area classified as Airfield. The proposed joint use activities would support this land status; therefore, no adverse impacts to land use are expected within the Allen Army Airfield Area.

4.7.2.2 Integrated Cultural Resource Management Plan

Implementation of the ICRMP would have positive benefits on land use. Areas suspected of having archeological sites would be protected in their natural state from disturbance and development. The systematic investigation of Fort Greely for potential archeological sites would ensure that these areas are documented and considered during land use decisions in a comprehensive manner by those who may consider the use of the land. In addition, Fort Greely would be able to better assess that federal regulations are being met due to the comprehensive nature of review given by the ICRMP. Without a comprehensive archeological study, there can be no assurance of site preservation or protection. Currently, a comprehensive archeological survey is scheduled to begin in May 2005.

4.7.2.3 Integrated Pesticide Management Plan

The IPMP is intended to provide guidance to maintain an effective pest control program at Fort Greely. The plan also emphasizes the use of proactive surveillance and non-chemical control

methods, lower toxicity chemical use, and the lowest chemical quantity use to achieve pest control with minimal environmental impact. The plan would not impact land use at Fort Greely.

4.7.3 CUMULATIVE IMPACTS

The proposed activities discussed in section 2.1 when added to past and present actions at Fort Greely are not expected to result in additive or cumulative impacts to land use. Implementation of the Summary Development Plan, ICRMP, and IPMP would help to maximize the planning process and minimize potential cumulative impacts to land use on Fort Greely that could occur without a coordinated overall planning process. No other activities have been identified that would result in cumulative impacts to land use at Fort Greely.

4.8 NOISE

This section identifies potential impacts due to the implementation of the Summary Development Plan, ICRMP, and IPMP on the regional noise environment at Fort Greely.

Noise impacts to wildlife are addressed in section 4.2, Biological Resources.

4.8.1 NO-ACTION ALTERNATIVE

Under the No-action Alternative, the proposed projects would be carried out without the benefit of the comprehensive planning process defined in the Summary Development Plan, ICRMP, and IPMP. Noise levels would continue to be monitored and managed under the existing Installation Environmental Noise Management Plan.

4.8.2 PROPOSED ACTION

The existing Installation Environmental Noise Management Plan would help mitigate potential impacts on the noise environment at Fort Greely.

4.8.2.1 Summary Development Plan

Cantonment Area

Activities proposed for the Cantonment Area by the Summary Development Plan include refurbishment and repair of existing facilities, construction, and ground disturbance.

Although specific types of equipment that would be used during the proposed construction activities are not known, short-term noise from construction and ground disturbance equipment usually falls in the range of 70 dBA to 98 dBA at 50 feet from the source. Earth moving equipment, jack hammers, and rock drills are typically the noisiest pieces of equipment in this range. (U.S. Environmental Protection Agency, 1971) In addition, due to the short construction season in Alaska, there is a chance that construction could take place up to 24 hours per day during the summer months. Therefore, due to the 10 dBA penalty added to nighttime noise, the 65 dBA and 75 dBA noise levels are estimated to occur within approximately 500 feet and 400 feet from a construction site, respectively. These noise levels would include some of the

existing housing and part of the Fort Greely School. To minimize impacts, noise from construction activities would need to be controlled to the extent practicable. Coordination with the Fort Greely School, prior to and during construction, would help to minimize potential noise impacts.

Noise from refurbishment and repair and construction activities would comply with the Occupational Safety and Health Act, the U.S. Army Corps of Engineers Safety and Health Requirements Manual (EM 385-1-1), Fort Greely safety requirements, and other recognized standards for operations that involve construction or facility modifications. Personnel would wear hearing protective devices as required. Restricted public access to the proposed project sites would ensure limited noise impacts to the public. No long-term impacts to the noise environment are anticipated.

Missile Field Complex Area

The activities proposed for the Missile Field Complex Area include construction of new facilities and ground disturbance. These proposed activities would have similar affects as previously described for the Cantonment Area and are anticipated to have no long-term impacts to the noise environment.

Allen Army Airfield Area

Construction and ground disturbance activities proposed for the Allen Army Airfield Area would have similar affects as previously described for the Cantonment Area and are anticipated to have no long-term impacts to the noise environment.

Joint use activities proposed for the Allen Army Airfield Area would include up to approximately 40 flights per week. The closest sensitive noise receptors of concern are the residents of Delta Junction and the Fort Greely School. It is anticipated that noise levels from the additional flights would not impact sensitive noise receptors on Fort Greely or in the off-base area.

4.8.2.2 Integrated Cultural Resource Management Plan

No significant noise levels would be generated during the implementation of the Fort Greely ICRMP. Therefore it is anticipated that there would be no impact to the regional noise environment.

4.8.2.3 Integrated Pesticide Management Plan

No significant noise levels would be generated during the implementation of the Fort Greely IPMP. Therefore it is anticipated that there would be no impact to the regional noise environment.

4.8.3 CUMULATIVE IMPACTS

The construction and modification activities proposed for the Cantonment Area, Missile Field Complex Area, and Allen Army Airfield Area by the Summary Development Plan, ICRMP, and IPMP are not anticipated to result in a significant impact to the noise environment within the ROI. These activities are expected to cause a short-term temporary increase in the noise levels in the immediate vicinity of the construction and modification activities. The effect would be localized and is not anticipated to cause permanent noise level impacts. Personnel and the public would be protected by enforcement of existing regulations. The additional flights proposed for the Allen Army Airfield Area would occur in conjunction with the existing Installation Environmental Noise Management Plan and would not significantly impact the noise environment.

Possible planned activities at the Allen Army Airfield, identified in the Draft C-17 Flight Training Areas EA, include up to 900 assault landings per year on runway 06/24. Noise modeling contours, prepared for Elmendorf Air Force Base and projected onto runway 06/24, show a DNL contour of 65 dBA that extends approximately 2.75 miles from the west end of runway 06/24 and 2.8 miles from the east end of runway 06/24. This noise contour does not include any sensitive noise receptors on Fort Greely or in the off-base areas. The noise contours from potential joint-use aircraft are expected to be less than the noise contours from Elmendorf Air Force Base. Although there would be some potential for a slight increase in the combined noise contours, the noise levels would still not be expected to reach any sensitive noise receptors on Fort Greely or the off-base area; therefore, any cumulative impacts would not be significant.

Another potential for cumulative impacts was identified in the Draft EIS for the Construction and Operation of a Battle Area Complex and a Combined Arms Collective Training Facility within U.S. Army Training Lands in Alaska. The EIS identifies proposed heavy weapons and demolition noise levels that could affect noise levels at Fort Greely. Within the EIS, three locations have been selected as alternatives for the Proposed Action, the Eddy Drop Zone, the Donnelly Drop Zone, and the North Texas Range. In the event that the Eddy Drop Zone is the selected alternative, peak noise levels from high-energy impulsive sounds, could exceed a threshold for complaint potential. A moderate risk of complaints would occur at 115 decibels (dB), and a high risk of complaints would occur at 130 dB. Based on modeling results in the EIS, approximately 10 to 30 percent of the time, adverse weather conditions would result in the 115 dB threshold level extending over an area that includes much of the Fort Greely Cantonment Area and the Missile Field Complex Area (U.S. Army Alaska Department of the Army, 2004). Therefore, the noise levels from the proposed construction activities in the Cantonment Area, when combined with the noise from selection of the Eddy Drop Zone as the proposed Battle Area Complex, could result in cumulative noise impacts. However, the Battle Area Complex noise would be short-duration impulse noise that would only occur during training exercises, several times per year.

4.9 SOCIOECONOMICS

4.9.1 NO-ACTION ALTERNATIVE

Under the No-action Alternative, the proposed projects would be carried out without the benefit of the comprehensive planning process defined in the Summary Development Plan, ICRMP, and IPMP. Activities previously planned and analyzed in other documents would be executed as planned. Projects would be evaluated on an individual bases to determine if there are any direct impacts on area socioeconomics or subsistence practices.

4.9.2 PROPOSED ACTION

4.9.2.1 Summary Development Plan

Cantonment Area

At Fort Greely, the majority of the housing was originally constructed for families, with the barracks and special transient quarters used for unaccompanied personnel. The GMD mission and its support functions would employ civilian and military unaccompanied personnel as well as military personnel with families.

Since barracks are not acceptable for most of the unaccompanied personnel, some of the existing family housing continues to be used as unaccompanied personnel housing. This results in the need for repair activities (section 2.1.1) and limited new construction (section 2.1.1) of certain family housing units, including permanent unaccompanied officer housing, and the modification of other areas as barracks. A positive effect on area housing would be expected. Moreover, proposed activities would ameliorate the deficiencies and undesirable elements of some older infrastructure.

Proposed activities would not result in any adverse impacts on education resources, medical services, or other support activities on Fort Greely.

Any increase in personnel employed on base would be handled by the planned increased building capacity, and upgraded roads and facilities. Based on the Summary Development Plan, the number of personnel working on Fort Greely is expected to remain fairly constant from 2003 through 2008 at approximately 645 people. This level would be considerably lower than past levels accommodated as recently as 1990, at which time the population of Fort Greely was 1,134.

The addition of a new community center and other community oriented facilities would help to improve quality of life on the installation. Potential employment opportunities resulting from construction and operation of these new facilities would provide a positive socioeconomic impact. Potential for employment of civilian contractors during the repair and refurbishment would be a positive, if short-term, impact on area socioeconomics.

No impacts to subsistence practices are anticipated.

Missile Field Complex Area

Construction activities (as described in section 2.1.2) would include the creation of new facilities, trenching for and installation of utility systems, installation of lighting, and related actions. No adverse effects to socioeconomics are expected. Staffing of new facilities, such as the Entry Control Point, could actually provide the potential for increased employment, though on a limited basis. Any required increases in personnel would be accommodated by the improved conditions of the Missile Field Complex Area and its increased capacity to support workers.

No impacts to subsistence practices are anticipated.

Allen Army Airfield Area

Construction activities proposed for the Allen Army Airfield Area (as described in section 2.1.3) include trenching for utilities and communication lines, land clearing and earth moving, and instrument landing equipment installation. These activities should have no impact on socioeconomics or subsistence. Anticipated increases in flight activity due to development and operation of joint use facilities in the Allen Army Airfield Area could provide increased employment opportunities.

4.9.2.2 Integrated Cultural Resource Management Plan

The Fort Greely ICRMP would provide a means by which compliance with historic preservation laws can be achieved. No impacts on socioeconomics or subsistence at Fort Greely are anticipated from the implementation of the ICRMP.

4.9.2.3 Integrated Pesticide Management Plan

The Fort Greely IPMP would provide a means by which an affective pest control program can be achieved. The plan has been established to operate in a manner that minimizes the risk of contamination to the environment. No impacts on socioeconomics, with the possible positive effect of increased job opportunities (on a limited scale) in pesticide management, or subsistence activities at Fort Greely are anticipated from IPMP implementation.

4.9.3 CUMULATIVE IMPACTS

The construction and modification activities proposed for the Cantonment Area, Missile Field Complex Area, and the Allen Army Airfield Area as a result of implementing the Summary Development Plan, ICRMP, and IPMP are not anticipated to result in adverse impacts to area socioeconomics. Positive impacts would include increased capacity for housing the installation personnel, as well as an increase in the standards of such housing. Employment opportunities are another potential positive effect within the ROI. No cumulative impacts on subsistence activities, which are low to nonexistent within the ROI, are expected. No other activities have been identified that, when added to the Proposed Action, would result in cumulative impacts to socioeconomics.

4.10 TRANSPORTATION

4.10.1 NO-ACTION ALTERNATIVE

Under the No-action Alternative, the proposed projects would be carried out without the benefit of the comprehensive planning process defined in the Summary Development Plan, ICRMP, and IPMP. New projects would be evaluated on an individual basis to determine the potential for impacts on area transportation levels or capacity. Activities previously analyzed in other documents would be executed as planned with no additional impacts to transportation.

4.10.2 PROPOSED ACTION

While there is a potential for IRP sites to be disturbed during construction at the Cantonment Area, Missile Field Complex Area, or Allen Army Airfield Area, impacts to transportation are not expected.

4.10.2.1 Summary Development Plan

Cantonment Area

Planning for the Cantonment Area includes housing refurbishments and repair as well as construction of new facilities. It is anticipated that the refurbishment and repair activities would produce minimal affects on transportation as the majority would occur within current facilities and would not impede traffic. Limited effects on transportation would occur from workers traveling to these sites, but would produce no lasting effects as traffic levels (based on current on-base population) would be considerably less than at their peak with a former population of approximately twice the current population.

Construction activities within the Cantonment Area would include construction of new buildings and facilities, paving, and trenching for utilities upgrade/installation. Trenching activities, as well as the installation of support facilities, could temporarily impede road traffic in areas of construction and repair. These effects would be localized and of limited duration and would be minimized with proper planning and scheduling.

The Summary Development Plan estimates that between 2005 and 2008, approximately 645 personnel would work on Fort Greely, of which approximately 165 would live on the base and 480 would commute. These levels show an increase over 2003 population levels, and thus would result in an increase in roadway traffic. However, numbers would still remain well below the 1990 personnel level of 1,134. Project activities would increase traffic on Fort Greely roads, as well as the adjacent Richardson Highway. However, roadway traffic was within the roadway capacity at the historically higher personnel levels and it is assumed that, given the refurbishment of certain on-base access roads and the potential completion of improvement activities planned for the adjacent Richardson Highway, this increase would be easily managed.

Missile Field Complex Area

Housing refurbishments and repair are not planned for the Missile Field Complex Area. Construction activities (as described in section 2.1.2) would include the creation of new facilities, trenching for and installation of utility systems, installation of lighting, and related actions.

Trenching and utilities installation, as well as the installation of support facilities, could temporarily impede road traffic in areas of construction and repair. These effects would be localized and of limited duration. Planning and scheduling of activities would help to offset such effects.

No adverse effects to transportation are expected. Proposed plans, such as leveling of the terrain for access drives, would actually improve the quality of roadway traffic in those immediate areas and thus be a positive effect.

Creation of new facilities, such as the Entry Control Point, could impede traffic entry into the missile field. Such security requirements, however, are understood and are generally of brief duration and well tolerated by personnel.

Allen Army Airfield Area

Construction activities proposed for the Allen Army Airfield Area (as described in section 2.1.3) include trenching for utilities and communication lines, land clearing and earth moving, and instrument landing equipment installation. The airfield is currently employed for existing missions and emergency civilian use, though on a limited basis. Additional planning for the joint-use of the Allen Army Airfield Area would identify specific facilities to be developed within the potential joint use area identified on figure 2-4. This area would have direct access to the Richardson Highway and would not impact ground transportation on Fort Greely. Regularly scheduled commuter and cargo flights would be a positive impact on the operations at Fort Greely and on the transportation needs of the local communities and industries.

4.10.2.2 Integrated Cultural Resource Management Plan

The Fort Greely ICRMP would provide a means by which compliance with historic preservation laws can be achieved. No impacts on transportation systems at Fort Greely are anticipated from the implementation of the ICRMP.

4.10.2.3 Integrated Pesticide Management Plan

The Fort Greely IPMP would provide a means by which an affective pest control program can be achieved. The plan has been established to operate in a manner that minimizes the risk of contamination to the environment. No impacts on transportation systems at Fort Greely are anticipated from the implementation of the IPMP.

4.10.3 CUMULATIVE IMPACTS

Impacts of a temporary duration would include increased levels of roadway traffic by transient personnel during the repair and construction phases, though levels would be well within historic capacity. If airway traffic increases during this phase up to the anticipated level of 40 flights per week, traffic impacts could be avoided by proper scheduling. Planned roadway upgrades and the proposed extension of the Alaska Railway system, expected to be completed within approximately 5 years (Anchorage Daily News, 2005), would help to offset the levels of roadway traffic leading to the installation and would result in a positive cumulative impact on transportation.

4.11 UTILITIES

4.11.1 NO-ACTION ALTERNATIVE

Under the No-action Alternative, the proposed projects would be carried out without the benefit of the comprehensive planning process defined in the Summary Development Plan, ICRMP, and IPMP. New projects would be evaluated on an individual basis to determine the potential for impacts on utility levels or capacity. Activities previously analyzed in other documents would be executed as planned with no additional impacts on area utilities levels or capacities.

4.11.2 PROPOSED ACTION

4.11.2.1 Summary Development Plan

Cantonment Area

Since barracks are not acceptable for most of the unaccompanied personnel, some of the existing family housing continues to be used as unaccompanied personnel housing. This results in the need for repair activities (section 2.1.1) and limited new construction (section 2.1.1) of certain family housing units, including permanent unaccompanied officer housing, and the repair of certain areas as barracks. Much of these activities would include installation of new utilities or the upgrading of current utilities systems.

Between 2005 and 2008, approximately 650 personnel could work on Fort Greely, of which approximately 168 would live on the installation and approximately 480 would commute. Although employee population would significantly increase during construction and repair work, it would not surpass, or even meet, previous population levels which existed when the installation was in full operation. Utility usage by workers utilized for the Proposed Action should be easily accommodated without impacting current capacity.

Certain repair and construction projects, such as refurbishing utility lines, addition of utilities, or work on the utilidor (utility conduit), would have direct short-term impacts from utility interruptions. However, these effects would be temporary and localized to the areas under construction and refurbishment, and adverse affects would be minimized with proper planning and scheduling measures. In addition, these proposed activities would reduce any deficiencies and undesirable elements of certain infrastructure, resulting in a long-term positive impact on utilities capacity and capabilities.

Stormwater drainage could be affected by increases in built-up areas, roadways, and other impermeable surfaces. Site plans for repair/refurbishment would need to be fully reviewed to determine if project development would impact the current stormwater discharge program and whether stormwater runoff control schemes would need to be implemented. Stormwater issues during the construction/repair phases would be offset by contouring of work areas to provide adequate drainage.

Debris removal from buildings and other facilities would increase solid waste levels during the construction and repair period. This would be a temporary effect and careful planning would ensure no conflict with current solid waste handling practices within the Cantonment Area.

Missile Field Complex Area

There are no housing refurbishments or repairs planned for the Missile Field Complex Area. Construction activities (as described in section 2.1.2) would include trenching for and installation or refurbishment of utility systems, utilidor work, and related actions. As with the Cantonment Area, utility usage by workers utilized for the Proposed Action would be easily accommodated without impacting current capacity.

The proposed replacement of the DSCS 1 Power Plant and the addition of a DSCS 2 Power Plant, as well as improvement of stormwater drainage within the Missile Field Complex Area, would be positive impacts to utilities.

Refurbishing utilities lines, addition of utilities, or work on the utilidor would result in a temporary impact to that particular system and may require shutdown during actual work. However, such impacts to utilities would be offset by planning and scheduling and the finished project would result in a positive impact.

The construction of the Missile Field Entry Control Point should not result in any impacts to utilities other than the brief requirements of the construction crew. The Entry Control Point would include a water supply well for potable water, and a wastewater system, and as such would be largely self-contained.

Clearing and ground disturbance around the missile field security fence would impact Landfill 6, located northeast of the Missile Field Complex area. However, this landfill was closed in 1960 and thus has no effect on current solid waste handling practices.

Stormwater issues would be handled as described in the Cantonment Area.

Allen Army Airfield Area

Construction activities proposed in the Allen Army Airfield Area (as described in section 2.1.3) include trenching for utilities and communication lines, land clearing and earth moving, and instrument landing equipment installation. Refurbishing of utilities lines or the utilidor would result in a temporary impact in that certain utilities may require shut down during actual work. Impacts to on site workers can be offset by planning and scheduling. Utilities repair would result in a positive impact on the Allen Army Airfield Area.

4.11.2.2 Integrated Cultural Resource Management Plan

The Fort Greely ICRMP would provide a means by which compliance with historic preservation laws can be achieved. No impacts on utilities systems at Fort Greely are anticipated from the implementation of the ICRMP.

4.11.2.3 Integrated Pesticide Management Plan

The Fort Greely IPMP would provide a means by which an effective pest control program can be achieved. The plan has been established to operate in a manner that minimizes the risk of contamination to the environment. No impacts on utilities systems at Fort Greely are anticipated from the implementation of the IPMP.

4.11.3 CUMULATIVE IMPACTS

The construction and modification activities proposed for the Cantonment Area, Missile Field Complex Area, and the Allen Army Airfield Area by the Summary Development Plan, ICRMP, and IPMP are not anticipated to result in adverse impacts to area utilities. Impacts of a temporary duration would include increased demand for utilities by personnel during the repair and construction phases. As shown, personnel levels would be well within the previously established capacity. No other activities have been identified that when added to the Proposed Action would result in cumulative impacts to utilities.

4.12 WATER RESOURCES

4.12.1 NO-ACTION ALTERNATIVE

Under the No-action Alternative, the proposed projects would be carried out without the benefit of the comprehensive planning process defined in the Summary Development Plan, ICRMP, and IPMP. New projects would be evaluated on an individual basis to determine the potential for impacts to water resources. Activities previously analyzed in other documents would be executed as planned; current groundwater monitoring activities would continue at Fort Greely; and there would be no additional impacts to water resources.

4.12.2 PROPOSED ACTION

While there is a potential for IRP sites to be disturbed during construction at the Cantonment Area, Missile Field Complex Area, or Allen Army Airfield Area at Fort Greely, all ground disturbing activities would be conducted in accordance with the Fort Greely Environmental Procedures. No impact to water resources is anticipated as a result of proposed actions that may occur at existing IRP sites.

4.12.2.1 Summary Development Plan

Cantonment Area

Proposed building refurbishments and repairs would result in no impacts to water resources.

Additional proposed activities within the Cantonment Area would include construction of new buildings and facilities, cantonment wide installation of I3MP, relocation of an AAFES Gas Pump and miscellaneous paving. Approximately 14.5 acres of currently undisturbed land would be disturbed during the construction of new housing in the Cantonment Area. Due to the relatively level topography and low precipitation, drainage patterns would only be altered slightly, and surface water runoff and erosion would be minimal. A minor increase in sediment in surface waters is possible, but not likely due to the distance between the construction sites and surface water bodies. Best Management Practices would be used to reduce the potential for soil erosion into water resources from all construction activities. These measures could include limiting the amount of area exposed, installing silt fences or straw bale dikes, and adding protective covering to any slopes to enhance long-term stability. Once construction is complete and vegetation is stabilized, there would be little soil erosion from operation of the site. A sediment erosion control plan would be prepared if needed and would address each of the measures.

Since construction would result in the disturbance of more than 1 acre of land, the activities would be subject to federal NPDES storm water permitting requirements. As such, all construction activities would be conducted in accordance with the Fort Greely SWPPP. As stated in the SWPPP, construction projects would be addressed under separate but compatible SWPPPs maintained by the responsible construction agent. Prior to the start of any new construction, a copy of the construction SWPPP would be submitted to and approved by the Environmental Division of the Fort Greely Directorate of Public Works. (U.S. Army Space and Missile Defense Command, 2003) Adherence to these requirements would help minimize any potential impacts to water resources from construction projects.

Potential impacts to water resources resulting from accidental spills of hazardous materials during construction would be minimized because all activities would follow Fort Greely's Environmental Procedures (U.S. Army Space and Missile Defense Command, 2002b), including the Spill Prevention, Control, and Countermeasures Plan and emergency response procedures.

A minimal increase in water usage during construction would not impact the water supply aquifers and surface water sources at Fort Greely.

Following construction, any open areas adjacent to the facilities would be landscaped, and there would be no further potential impacts to water resources from erosion. New facilities would be added to the SWPPP upon their completion, and the SWPPP is scheduled to be updated annually. Operation and maintenance of the relocated AAFES gas pumps would be in accordance with applicable procedures, resulting in no impacts to water resources.

Missile Field Complex Area

As described in section 2.1.2, additional land clearing, trenching, and facilities construction are proposed in the Missile Field Complex Area. These proposed activities would have similar impacts on water resources to those described above for construction activities in the Cantonment Area. Construction activities would be conducted in accordance with the Fort Greely Environmental Procedures and SWPPP.

Following construction, any open areas adjacent to the facilities would be landscaped, and there would be no further potential impacts to water resources from erosion. The area cleared around the missile field as part of the Robust Security Planning would be seeded with native grasses to minimize potential erosion and impacts to water resources.

Allen Army Airfield Area

As described in section 2.1.3, additional land clearing, trenching, and facilities construction are proposed in the Allen Army Airfield Area. These proposed activities would have similar impacts on water resources to those described above for construction activities in the Cantonment Area. Construction activities would be conducted in accordance with the Fort Greely Environmental Procedures and SWPPP.

Following construction, any open areas adjacent to the facilities would be landscaped and there would be no further potential impacts to water resources from erosion. No impacts to water resources have been identified as a result of past and current airfield operations. An increase in

operations due to joint use activities in the Allen Army Airfield Area is also not expected to result in impacts to water resources.

4.12.2.2 Integrated Cultural Resource Management Plan

The purpose of Fort Greely's ICRMP is to achieve and maintain compliance with historic preservation laws. It is anticipated that the implementation of the ICRMP at Fort Greely would not impact water resources.

4.12.2.3 Integrated Pesticide Management Plan

The IPMP is intended to provide guidance to maintain an effective pest control program at Fort Greely. The plan also emphasizes the use of proactive surveillance and non-chemical control methods, lower toxicity chemical use, and the lowest chemical quantity use to achieve pest control with minimal environmental impact. The plan has been established to operate in a manner that minimizes the risk of contamination to the environment, including water quality. Pesticides would not be applied during or before expected heavy rains to limit water quality impacts. In the event of a spill, notification and control of the spilled material would limit and prevent any water resources impacts. Therefore, there is expected to be no impact to water resources.

4.12.3 CUMULATIVE IMPACTS

The construction and modification activities proposed for the Cantonment Area, Missile Field Complex Area, and the Allen Army Airfield Area by the Summary Development Plan, ICRMP, and IPMP are not anticipated to result in a significant impact to water resources within the ROI. Erosion and minor increases in sediment in surface waters during construction activities would add cumulatively to erosion in the area, but these impacts would be temporary and are not anticipated to result in a measurable cumulative impact to water resources.

4.13 ENVIRONMENTAL JUSTICE

An environmental justice impact would be a long-term environmental, cultural, health, or economic effect that has a disproportionately high and adverse effect on a nearby minority or low-income population. Environmental justice concerns could be triggered where: the percentage of persons in low-income or minority populations in the census area meaningfully exceeds the percentage in the regions of comparison; the percentage of low-income or minority population in the census area exceeds 50 percent; the proposed activities would result in substantial adverse effects to one or both of the above populations.

No long-term, adverse environmental, cultural, health, or economic effects have been identified in this EA. In addition, within the Southeast Fairbanks Census Area, 23.7 percent of the population qualified as minority for the 2000 census and 18.9 percent were listed below the poverty level (FedStats.govorg, 2005). These levels do not exceed the percentage in the region and do not exceed 50 percent; therefore, there are no low-income or minority populations that could be disproportionately affected by the proposed activities at Fort Greely.

4.14 ADVERSE ENVIRONMENTAL EFFECTS THAT CANNOT BE AVOIDED

In general, most known adverse effects resulting from implementation of the Proposed Action would be mitigated through project planning and design measures, consultation with appropriate agencies, and the use of Best Management Practices. As a result, most potential adverse effects would be avoided, and those that could not be avoided would not result in a significant impact to the environment.

Adverse environmental effects that cannot be avoided include the release of small amounts of pollutants into the atmosphere, minor impacts on vegetation, and minor, positive impacts on socioeconomics.

4.15 CONFLICTS WITH FEDERAL, STATE, AND LOCAL LAND USE PLANS, POLICIES, AND CONTROLS FOR THE AREA CONCERNED

The proposed program activities at Fort Greely would be consistent with the existing land use and would be in accordance with federal, state, and local plans and policies. These activities would not alter the uses of the sites, and no conflicts with land use plans, policies, and controls are anticipated.

4.16 ENERGY REQUIREMENTS AND CONSERVATION POTENTIAL

Anticipated energy requirements of the proposed activities would be well within the energy supply capacity at Fort Greely. Energy requirements would be subject to any established energy conservation practices at each facility.

4.17 IRREVERSIBLE OR IRRETRIEVABLE COMMITMENT OF RESOURCES

Irreversible or irretrievable resource commitments are related to the use of nonrenewable resources and the effects that the uses of these resources have on future generations. Irreversible effects result primarily from the use or destruction of a specific resource (e.g., energy and minerals) that cannot be replaced within a reasonable time frame. Irretrievable resource commitments involve the loss in value of an affected resource that cannot be restored as a result of the action. For the Proposed Action, most impacts are negligible or short-term and temporary.

The amount of materials required for any program-related activities and energy used during the project would be small. Although the proposed activities would result in some irreversible commitment of resources such as diesel fuel and various materials for taxiway and facility construction, none of these activities would be expected to significantly decrease the availability

of the resources. Impacts to threatened or endangered species and cultural resources are not expected and would not result in an irretrievable commitment of resources.

4.18 RELATIONSHIP BETWEEN SHORT-TERM USE OF THE HUMAN ENVIRONMENT AND THE MAINTENANCE AND ENHANCEMENT OF LONG-TERM PRODUCTIVITY

Proposed activities would take advantage of existing facilities and infrastructure. The proposed use of existing facilities or locations would not alter the uses of the sites. Therefore, the Proposed Action does not eliminate any options for future use of the environment for the locations under consideration.

4.19 NATURAL OR DEPLETABLE RESOURCE REQUIREMENTS AND CONSERVATION POTENTIAL

Other than various structural materials and fuels, the program would require no significant natural or depletable resources.

4.20 FEDERAL ACTIONS TO ADDRESS PROTECTION OF CHILDREN FROM ENVIRONMENTAL HEALTH RISKS AND SAFETY RISKS (EXECUTIVE ORDER 13045, AS AMENDED BY EXECUTIVE ORDER 13229)

This EA has not identified any environmental health and safety risks that may disproportionately affect children, in compliance with Executive Order 13045, as amended by Executive Order 13229.

5.0

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5.0 REFERENCES

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6.0

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AGENCIES AND INDIVIDUALS CONTACTED

7.0 AGENCIES AND INDIVIDUALS CONTACTED

Alaska Department of Environmental Conservation
Division of Air and Water Quality
Division of Spill Prevention Response Contaminated Sites Program
Fairbanks, Alaska

Alaska Department of Fish & Game
Delta Junction Field Office

City of Delta Junction, Alaska

Alaska Department of Natural Resources
Division of Mining, Land, and Water Management
Division of Parks and Outdoor Recreation
Fairbanks, Alaska

Boeing
Huntsville, Alabama

U.S. Fish & Wildlife Service
Fairbanks, Alaska

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APPENDIX A

TABLES OF ACTIVITIES

APPENDIX A

TABLES OF ACTIVITIES

Cantonment Area

The National Missile Defense (NMD) Deployment Environmental Impact Statement (EIS) included the use of numerous facilities within the Cantonment Area. The Validation of Operational Concept (VOC) Environmental Assessment (EA) added several additional facilities and the potential for construction of mancamp facilities within the Cantonment Area, and expansion of the Fort Greely Solid Waste Landfill. The VOC Supplemental EA analyzed additional fencing around the Cantonment Area. Additional proposed activities that may have impacts beyond those analyzed in the previous documents are included for analysis in this EA.

Table A-1: NEPA Coverage for Cantonment Area

Activity	Location	NEPA Coverage
Building 660—GMS & Garrison	Interior modifications	Deployment EIS
Building 650—Admin	Interior modifications	Deployment EIS
Building 663 & 655	Exterior Paint	Deployment EIS
Building 661—GMS & Garrison	Interior modifications	Deployment EIS
Building 662—GMS	Interior modifications	Deployment EIS
PX/Commissary Mall Complex—Bldg 601	Interior & Exterior	Deployment EIS
Building 805 UNCO Housing	Modifications or New	Deployment EIS, this EA
Barber/Beauty Shop—Building 653	Interior modifications	Deployment EIS, this EA
Power Plant Related Actions	Interior	Deployment EIS, this EA
Pet Boarding Facility	Unknown	This EA
Dog Kennel for DA Police	Near Building 320	This EA
Dog Park	East of Building 847	This EA
Miscellaneous Paving	Various locations	This EA
Big Delta Street Lighting	Big Delta	This EA
Upgrade West Post Road	Existing gravel road	This EA
ECC Building (Hazmat Storage)	Next to Building 635	This EA
Transient Facility (EUL)	Unknown	This EA
Enclaving (Site Work)	Unknown	This EA
Outdoor Playground	800 housing area	This EA
Indoor Inline Skating Rink/Playground	Unknown	This EA
Campground	Near Skeet Range	This EA
Clearing dead wood around Cantonment	Cantonment	This EA
Install Underground power	Unknown	This EA
UOPH Barracks	Where 659 was located	This EA
Consolidated Community Center	South of Chapel	This EA
Family Housing Units	Existing 800 area & east	This EA
Central Receiving Facility	Unknown	This EA
Relocation of AAFES Gas Pump	Building 504	This EA
Golf/Driving Range/Clubhouse/ Ski Trails	NW Robin Rd-Big Delta	This EA
Archery Range	Near Skeet Range	This EA

Missile Field Complex Area

The NMD Deployment EIS included development of the NMD missile field within an area of approximately 600 acres, identified as the Missile Field Complex Area. Additional facilities and activities identified within the original Missile Field Complex are generally covered by the environmental analysis in the NMD Deployment EIS, the VOC EA, and the VOC Supplemental EA. Activities that may have impacts beyond those analyzed in these previous documents are included for analysis in this EA.

Table A-2: NEPA Coverage for Missile Field Complex Area

Activity	Location	NEPA Coverage
GBI Silos, GBI receiving, assembly & storage facilities, Headquarters Facility, Administration facility, Readiness Station, Security Building, Entry Control Facilities, IDT, Water Supply, Utilities, Roads, Security Fencing, Lighting & Monitoring	Inside Missile Field Complex (MFC)	Deployment EIS, VOC EA, VOC Supplemental EA
49th GMD Fighting Positions	Inside MFC	Deployment EIS
Ammunition Storage Container/Magazine	Inside MFC	Deployment EIS
Second Fence around Ammo Supply Point	Inside MFC	Deployment EIS
Fuel Point	Inside MFC	Deployment EIS
Communications Duct Bank	Inside MFC	Deployment EIS
Butler Building for Warm Storage	Inside MFC	Deployment EIS
Battalion Composite Facility	Inside MFC	Deployment EIS
MF3 Mechanical and Electrical Building	Inside MFC	Deployment EIS
MAB Security Fence	Inside MFC	Deployment EIS
Grading/Landscape/Paving/Drainage	Inside MFC	Deployment EIS
Road paving in MFC	Inside MFC	Deployment EIS
Bus Service inside MDC	Inside MFC	Deployment EIS
Entry Control Point (ECP) on Robin Road	Adjacent to MFC on Robin Road	Deployment EIS, this EA
Second DSCS Radome and Backup Generator, DSCS 1 Backup Generator Upgrade	Inside MFC	Deployment EIS, this EA
935-Foot Clear Zone—hydro axe	Around MFC	This EA
Civilian Administration Facility	Unknown	This EA
Storage Facility at Missile Field	Unknown	This EA
Southern Boundary Fence	Along Boundary	VOC Supplemental EA, this EA

Allen Army Airfield Area

The NMD Deployment EIS included removal and reconstruction activities at Allen Army Airfield. The VOC EA included additional specificity regarding the types of activities that were proposed including runway repair and repaving, storm water system repairs, replacement of fuel aprons, adding an above ground fuel tank, and replacing runway lighting. The VOC Supplemental EA analyzed additional activities including fencing around the airfield, extension of runway 18/36, installation of approach lighting, additional lighting installation, provisions for hot spots and deicing activities, addition of Class D airspace, construction of a new control tower, and installation of an airport surveillance radar. Additional proposed activities that may have impacts beyond those analyzed in the previous documents are included for analysis in this EA.

Table A-3: NEPA Coverage for Allen Army Airfield Area

Activity	Location	NEPA Coverage
Allen Army Air Field Repairs, Construction, and Upgrades	Allen Army Airfield	Deployment EIS, VOC EA, VOC Supplemental EA, this EA
Runway Approach Lighting and Clearing	Extends off-base Runway 18/36	VOC Supplemental EA
Class D airspace designation	Above Airfield	VOC Supplemental EA
Airfield Fencing	Airfield and Clear Zones	VOC Supplemental EA, this EA
Land Clearing, Reduce High Spots, Remove Obstructions (Vents from 85N)	Airfield perimeter	This EA
Taxiway Pavement and Lighting	Taxiways	This EA
Install Instrument Landing Systems	Runway 18/36 and 9/27	This EA
Electrical Vault Expansion	Building 133	This EA
Building 100 repairs, Parking Lot	Building 100 and vicinity	This EA
Fire Station	South of 110 Site	This EA
Joint Use—Public Terminal, Parking, Flight Service Center, Access Road	Proposed Joint Use Area Allen Army Airfield	This EA

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APPENDIX B

DISTRIBUTION LIST

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Washington DC

Ground-Based Midcourse Defense
Joint Program Office
Huntsville, AL

City of Delta Junction
Delta Junction AK

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Field Supervisor
US Department of Interior
US Fish & Wildlife Service
Fairbanks AK

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Fairbanks AK

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Dot Lake AK

Fairbanks Native Association, Inc.
Fairbanks AK

Healy Lake Traditional Council
Fairbanks AK

Nenana Traditional Council
Nenana AK

Northway Traditional Council
Northway AK

Tanacross IRA Council
Tanacross AK

Tanana Chief's Conference
Tanana AK

Tetlin IRA Council
Tetlin AK

Defense Technical Information Center
Fort Belvoir VA

Delta Junction Library
Delta Junction AK

Fairbanks North Star Borough Public Library
Noel Wien Library
Fairbanks AK

University of Alaska, Fairbanks
Elmer E. Rasmuson Library
Fairbanks AK

APPENDIX C

CORRESPONDENCE



DEPARTMENT OF THE ARMY
INSTALLATION MANAGEMENT AGENCY
HEADQUARTERS, UNITED STATES ARMY GARRISON, FORT GREELY
P. O. BOX 31310
FORT GREELY, ALASKA 99731

REPLY TO
ATTENTION OF:
Directorate of Public Works

February 24, 2005

MDA
Federal Office Building #2
7100 Defense Pentagon
Washington, DC 20301-7100

SUBJECT: Fort Greely Installation Environmental Assessment (EA) – Coordinating Draft

Dear Sir or Madam:

The U.S. Army Garrison Fort Greely is preparing an Environmental Assessment (EA) in compliance with the National Environmental Policy Act (NEPA) and the Council on Environmental Quality regulations implementing NEPA. This EA is also being prepared in support of AR 210-20, *Master Planning for Army Installations* and AR 200-4, *Cultural Resources Management*.

The Coordinating Draft EA describes the potential environmental impacts of implementing the Fort Greely Summary Development Plan, Integrated Cultural Resources Management Plan, and the Integrated Pesticide Management Plan at Fort Greely. Activities would include proposed refurbishment, repair and construction projects on Fort Greely.

Please review the enclosed Coordinating Draft EA and provide comments by 23 March 2005 to:

U.S. Army Space and Missile Defense Command
Attention: SMDC-EN-V (Mr. David Hasley)
P.O. Box 1500, Huntsville, AL 35807-3801
Or by data facsimile: (256) 955-5074
Or by electronic mail: david.hasley@smdc.army.mil

If you have any questions or comments, please contact David Hasley (256) 955-4170.

Please note that this document is a draft and is not intended for dissemination to the public.

Sincerely,

Christine Boerst
Acting Director
Public Works

Enclosure



DEPARTMENT OF THE ARMY
INSTALLATION MANAGEMENT AGENCY
HEADQUARTERS, UNITED STATES ARMY GARRISON, FORT GREELY
P. O. BOX 31310
FORT GREELY, ALASKA 99731

REPLY TO
ATTENTION OF:
Directorate of Public Works

February 24, 2005

Ground Based Midcourse Defense
Joint Program Office
PO Box 1500
Huntsville, AL 35807-3801

SUBJECT: Fort Greely Installation Environmental Assessment (EA) – Coordinating Draft

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P. O. BOX 31310
FORT GREELY, ALASKA 99731

REPLY TO
ATTENTION OF:
Directorate of Public Works

February 24, 2005

US Fish and Wildlife Service
101 12th Avenue
Fairbanks, AK 99701-6267

SUBJECT: Fort Greely Installation Environmental Assessment (EA) - Coordinating Draft

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DEPARTMENT OF THE ARMY
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P. O. BOX 31310
FORT GREELY, ALASKA 99731

REPLY TO
ATTENTION OF:
Directorate of Public Works

February 24, 2005

Alaska Department of Environmental Conservation
610 University Avenue
Fairbanks, AK 99709-3643

SUBJECT: Fort Greely Installation Environmental Assessment (EA) – Coordinating Draft

Dear Sir or Madam:

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**DEPARTMENT OF THE ARMY
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HEADQUARTERS, UNITED STATES ARMY GARRISON, FORT GREELY
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FORT GREELY, ALASKA 99731**

REPLY TO
ATTENTION OF:
Directorate of Public Works

February 24, 2005

Alaska Department of Fish and Game
PO Box 605
Delta Junction, AK 99737-0605

SUBJECT: Fort Greely Installation Environmental Assessment (EA) – Coordinating Draft

Dear Sir or Madam:

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REPLY TO
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February 24, 2005

Alaska Department of Environmental Conservation
Division of Air and Water Quality
610 University Avenue
Fairbanks, AK 99709-3643

SUBJECT: Fort Greely Installation Environmental Assessment (EA) – Coordinating Draft

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REPLY TO
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Directorate of Public Works

February 24, 2005

Alaska Department of Natural Resources
Division of Land, Water Management
3700 Airport Way
Fairbanks, AK 99709-4699

SUBJECT: Fort Greely Installation Environmental Assessment (EA) - Coordinating Draft

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P. O. BOX 31310
FORT GREELY, ALASKA 99731

REPLY TO
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Directorate of Public Works

February 24, 2005

Alaska Department of Natural Resources
Office of History and Archaeology
3601 C Street, Suite 1278
Anchorage, AK 99501

SUBJECT: Fort Greely Installation Environmental Assessment (EA) - Coordinating Draft

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Please note that this document is a draft and is not intended for dissemination to the public.

Sincerely,

Christine Boerst
Acting Director
Public Works

Enclosure



DEPARTMENT OF THE ARMY
INSTALLATION MANAGEMENT AGENCY
HEADQUARTERS, UNITED STATES ARMY GARRISON, FORT GREELY
P. O. BOX 31310
FORT GREELY, ALASKA 99731

REPLY TO
ATTENTION OF:
Directorate of Public Works

February 24, 2005

Alaska Department of Natural Resources
Division of Spill Prevention Response, Contaminate Sites Program
610 University Avenue
Fairbanks, AK 99709-3643

SUBJECT: Fort Greely Installation Environmental Assessment (EA) - Coordinating Draft

Dear Sir or Madam:

The U.S. Army Garrison Fort Greely is preparing an Environmental Assessment (EA) in compliance with the National Environmental Policy Act (NEPA) and the Council on Environmental Quality regulations implementing NEPA. This EA is also being prepared in support of AR 210-20, *Master Planning for Army Installations* and AR 200-4, *Cultural Resources Management*.

The Coordinating Draft EA describes the potential environmental impacts of implementing the Fort Greely Summary Development Plan, Integrated Cultural Resources Management Plan, and the Integrated Pesticide Management Plan at Fort Greely. Activities would include proposed refurbishment, repair and construction projects on Fort Greely.

Please review the enclosed Coordinating Draft EA and provide comments by 23 March 2005 to:

U.S. Army Space and Missile Defense Command
Attention: SMDC-EN-V (Mr. David Hasley)
P.O. Box 1500, Huntsville, AL 35807-3801
Or by data facsimile: (256) 955-5074
Or by electronic mail: david.hasley@smdc.army.mil

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Sincerely,

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Acting Director
Public Works

Enclosure

STATE OF ALASKA

DEPT. OF ENVIRONMENTAL CONSERVATION DIVISION OF SPILL PREVENTION AND RESPONSE CONTAMINATED SITES PROGRAM

FRANK MURKOWSKI, GOVERNOR

610 University Avenue
Fairbanks, AK 99709-3643
PHONE: (907) 451-2180
FAX: (907) 451-5105
<http://www.state.ak.us/dec/>

File: 141.38.038

March 10, 2005

Mr. David Hasley
U.S. Army Space and Missile Defense Command
Attention: SMDC-EN-V
P.O. Box 1500
Huntsville, AL 35807-3801

Re: Comments on *Fort Greely Installation Environmental Assessment – Coordinating Draft*
dated February 23, 2005

Dear Mr. Hasley:

The Alaska Department of Environmental Conservation (ADEC) Contaminated Sites Program has reviewed the document titled *Fort Greely Installation Environmental Assessment – Coordinating Draft* (EA) dated February 23, 2005. The document describes potential environmental impacts as a result of future development activities. Activities such as construction, trenching, digging, and tree-clearing could impact several installation restoration program (IRP) and compliance program contaminated sites.

The document references the *Environmental Sites Decision Document* dated October 2004 and the *Comprehensive Evaluation of Groundwater Monitoring Program* dated August 2004. These documents were in draft stage at the time, and several updates have been made to the document, resulting in incorrect statements in the text regarding some of the contaminated sites. For example, text on page 4-14 discusses the World War II Tent Site. Some of the information was taken directly from the *Environmental Sites Decision Document* fact sheet which was recently updated with additional information. Page 4-13 discusses the administrative controls established for various sites; however, not only sites listed for further action are under administrative controls. Several sites will have no further remedial action planned (NFRAP) and be placed under administrative control as well.

The ADEC Contaminated Sites Program requests the administrative controls be followed for each site and Fort Greely notify ADEC with a sampling and treatment plan when contamination is encountered during development activities. An interim removal action can occur at any time during the site characterization and cleanup process (18 AAC 75.330). During tree-clearing activities at Landfill #6, the integrity of the landfill cover should be maintained and if the integrity is compromised, actions should be taken to restore the landfill cover. Additionally, if landfill content becomes exposed (such as contamination, drums, debris, etc.) it should be investigated taking the proper health and safety precautions and ADEC should be notified of any contamination issues.

During tree-clearing activities at the CANOL Pipeline Tank Farm site, please notify the ADEC if the berms will need to be leveled. ADEC requests that screening/sampling occur prior to leveling the berms to determine the contamination levels and if contamination is encountered a cleanup level and technique should be proposed (18 AAC 75.335 and 18 AAC 75.340).

On page 4-14 there is a brief statement about Site 110 – Various Underground Storage Tanks. This site has contamination above ADEC Method Two Cleanup Levels and further discussion should be included regarding what type of activities would impact the site (or include with discussion of Site 85 North in page 4-14 lines 41 through page 4-15 line 6).

ADEC appreciates the opportunity to comment on this EA. Please contact me if you have any further questions at (907) 451-2180 or email emily_youcha@dec.state.ak.us.

Sincerely,



Emily Youcha
Environmental Specialist

cc: Glen Shonkwiler, U.S. Army Space and Missile Defense Command



DEPARTMENT OF THE ARMY
INSTALLATION MANAGEMENT AGENCY
HEADQUARTERS, UNITED STATES ARMY GARRISON, FORT GREELY
P. O. BOX 31310
FORT GREELY, ALASKA 99731

REPLY TO
ATTENTION OF:
Directorate of Public Works

February 24, 2005

Deltana Community Corporation
PO Box 930
Delta Junction, AK 99737

SUBJECT: Fort Greely Installation Environmental Assessment (EA) – Coordinating Draft

Dear Sir or Madam:

The U.S. Army Garrison Fort Greely is preparing an Environmental Assessment (EA) in compliance with the National Environmental Policy Act (NEPA) and the Council on Environmental Quality regulations implementing NEPA. This EA is also being prepared in support of AR 210-20, *Master Planning for Army Installations* and AR 200-4, *Cultural Resources Management*.

The Coordinating Draft EA describes the potential environmental impacts of implementing the Fort Greely Summary Development Plan, Integrated Cultural Resources Management Plan, and the Integrated Pesticide Management Plan at Fort Greely. Activities would include proposed refurbishment, repair and construction projects on Fort Greely.

Please review the enclosed Coordinating Draft EA and provide comments by 23 March 2005 to:

U.S. Army Space and Missile Defense Command
Attention: SMDC-EN-V (Mr. David Hasley)
P.O. Box 1500, Huntsville, AL 35807-3801
Or by data facsimile: (256) 955-5074
Or by electronic mail: david.hasley@smdc.army.mil

If you have any questions or comments, please contact David Hasley (256) 955-4170.

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Acting Director
Public Works

Enclosure



DEPARTMENT OF THE ARMY
INSTALLATION MANAGEMENT AGENCY
HEADQUARTERS, UNITED STATES ARMY GARRISON, FORT GREELY
P. O. BOX 31310
FORT GREELY, ALASKA 99731

REPLY TO
ATTENTION OF:
Directorate of Public Works

February 24, 2005

Dot Lake Village Council
PO Box 2279
Dot Lake, AK 99737

SUBJECT: Fort Greely Installation Environmental Assessment (EA) – Coordinating Draft

Dear Sir or Madam:

The U.S. Army Garrison Fort Greely is preparing an Environmental Assessment (EA) in compliance with the National Environmental Policy Act (NEPA) and the Council on Environmental Quality regulations implementing NEPA. This EA is also being prepared in support of AR 210-20, *Master Planning for Army Installations* and AR 200-4, *Cultural Resources Management*.

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Acting Director
Public Works

Enclosure



DEPARTMENT OF THE ARMY
INSTALLATION MANAGEMENT AGENCY
HEADQUARTERS, UNITED STATES ARMY GARRISON, FORT GREELY
P. O. BOX 31310
FORT GREELY, ALASKA 99731

REPLY TO
ATTENTION OF:
Directorate of Public Works

February 24, 2005

Fairbanks Native Association, Inc.
210 First Avenue
Fairbanks, AK 99701

SUBJECT: Fort Greely Installation Environmental Assessment (EA) – Coordinating Draft

Dear Sir or Madam:

The U.S. Army Garrison Fort Greely is preparing an Environmental Assessment (EA) in compliance with the National Environmental Policy Act (NEPA) and the Council on Environmental Quality regulations implementing NEPA. This EA is also being prepared in support of AR 210-20, *Master Planning for Army Installations* and AR 200-4, *Cultural Resources Management*.

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Attention: SMDC-EN-V (Mr. David Hasley)
P.O. Box 1500, Huntsville, AL 35807-3801
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Christine Boerst
Acting Director
Public Works

Enclosure



DEPARTMENT OF THE ARMY
INSTALLATION MANAGEMENT AGENCY
HEADQUARTERS, UNITED STATES ARMY GARRISON, FORT GREELY
P. O. BOX 31310
FORT GREELY, ALASKA 99731

REPLY TO
ATTENTION OF:
Directorate of Public Works

February 24, 2005

Healy Lake Traditional Council
PO Box 60300
Fairbanks, AK 99706

SUBJECT: Fort Greely Installation Environmental Assessment (EA) - Coordinating Draft

Dear Sir or Madam:

The U.S. Army Garrison Fort Greely is preparing an Environmental Assessment (EA) in compliance with the National Environmental Policy Act (NEPA) and the Council on Environmental Quality regulations implementing NEPA. This EA is also being prepared in support of AR 210-20, *Master Planning for Army Installations* and AR 200-4, *Cultural Resources Management*.

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P.O. Box 1500, Huntsville, AL 35807-3801
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Christine Boerst
Acting Director
Public Works

Enclosure



DEPARTMENT OF THE ARMY
INSTALLATION MANAGEMENT AGENCY
HEADQUARTERS, UNITED STATES ARMY GARRISON, FORT GREELY
P. O. BOX 31310
FORT GREELY, ALASKA 99731

REPLY TO
ATTENTION OF:
Directorate of Public Works

February 24, 2005

Nenana Traditional Council
PO Box 356
Nenana, AK 99760

SUBJECT: Fort Greely Installation Environmental Assessment (EA) – Coordinating Draft

Dear Sir or Madam:

The U.S. Army Garrison Fort Greely is preparing an Environmental Assessment (EA) in compliance with the National Environmental Policy Act (NEPA) and the Council on Environmental Quality regulations implementing NEPA. This EA is also being prepared in support of AR 210-20, *Master Planning for Army Installations* and AR 200-4, *Cultural Resources Management*.

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Acting Director
Public Works

Enclosure



DEPARTMENT OF THE ARMY
INSTALLATION MANAGEMENT AGENCY
HEADQUARTERS, UNITED STATES ARMY GARRISON, FORT GREELY
P. O. BOX 31310
FORT GREELY, ALASKA 99731

REPLY TO
ATTENTION OF:
Directorate of Public Works

February 24, 2005

Northway Traditional Council
PO Box 516
Northway, AK 99764

SUBJECT: Fort Greely Installation Environmental Assessment (EA) - Coordinating Draft

Dear Sir or Madam:

The U.S. Army Garrison Fort Greely is preparing an Environmental Assessment (EA) in compliance with the National Environmental Policy Act (NEPA) and the Council on Environmental Quality regulations implementing NEPA. This EA is also being prepared in support of AR 210-20, *Master Planning for Army Installations* and AR 200-4, *Cultural Resources Management*.

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Acting Director
Public Works

Enclosure



DEPARTMENT OF THE ARMY
INSTALLATION MANAGEMENT AGENCY
HEADQUARTERS, UNITED STATES ARMY GARRISON, FORT GREELY
P. O. BOX 31310
FORT GREELY, ALASKA 99731

REPLY TO
ATTENTION OF:
Directorate of Public Works

February 24, 2005

Tanacross IRA Council
PO Box 76009
Tanacross, AK 99776

SUBJECT: Fort Greely Installation Environmental Assessment (EA) - Coordinating Draft

Dear Sir or Madam:

The U.S. Army Garrison Fort Greely is preparing an Environmental Assessment (EA) in compliance with the National Environmental Policy Act (NEPA) and the Council on Environmental Quality regulations implementing NEPA. This EA is also being prepared in support of AR 210-20, *Master Planning for Army Installations* and AR 200-4, *Cultural Resources Management*.

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Acting Director
Public Works

Enclosure



DEPARTMENT OF THE ARMY
INSTALLATION MANAGEMENT AGENCY
HEADQUARTERS, UNITED STATES ARMY GARRISON, FORT GREELY
P. O. BOX 31310
FORT GREELY, ALASKA 99731

REPLY TO
ATTENTION OF:
Directorate of Public Works

February 24, 2005

Tanana Chief's Council
122 First Avenue, Suite 600
Fairbanks, AK 99701

SUBJECT: Fort Greely Installation Environmental Assessment (EA) – Coordinating Draft

Dear Sir or Madam:

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Acting Director
Public Works

Enclosure



DEPARTMENT OF THE ARMY
INSTALLATION MANAGEMENT AGENCY
HEADQUARTERS, UNITED STATES ARMY GARRISON, FORT GREELY
P. O. BOX 31310
FORT GREELY, ALASKA 99731

REPLY TO
ATTENTION OF:
Directorate of Public Works

February 24, 2005

Tetlin IRA Council
PO Box TTL
Tetlin, AK 99779

SUBJECT: Fort Greely Installation Environmental Assessment (EA) - Coordinating Draft

Dear Sir or Madam:

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Acting Director
Public Works

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INSTALLATION MANAGEMENT AGENCY
HEADQUARTERS, UNITED STATES ARMY GARRISON, FORT GREELY
P. O. BOX 31310
FORT GREELY, ALASKA 99731

REPLY TO
ATTENTION OF:
Directorate of Public Works

February 24, 2005

Pete Halgren
City Manager
PO Box 229
Delta Junction, AK 99737

SUBJECT: Fort Greely Installation Environmental Assessment (EA) - Coordinating Draft

Dear Sir or Madam:

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Christine Boerst
Acting Director
Public Works

Enclosure

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APPENDIX D
INTEGRATED CULTURAL RESOURCE MANAGEMENT PLAN

Integrated Cultural Resource Management Plan, Fort Greely, Alaska

November, 2004



**Environmental Division
Directorate of Public Works
Fort Greely, Alaska**

Acknowledgements

Thanks to Russ Sackett and Aaron Robertson for much of the previous research and data that was used for this plan. The U.S. Army Garrison – Alaska Integrated Cultural Resource Management Plan was used as a model for this document.

Cover Photograph

Side-notched dart point made of chert. Approximately 1.75 inches by 1.25 inches. From the Northern Archaic period, 2,000 – 6,000 years before current era (BCE). Recovered at Fort Greely in 2004.

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LIST OF ACRONYMS

ACHP	Advisory Council on Historic Preservation
AHPA	Archaeological and Historical Preservation Act
AHRS	Alaska Heritage Resources Survey
AIRFA	American Indian Religious Freedom Act
ANCSA	Alaska Native Claims Settlement Act of 1971
APE	Area of Potential Effect
ARPA	Archaeological Resources Protection Act
BP	Before Present
BRAC	Base Realignment and Closure
BLM	Bureau of Land Management
CFR	Code of Federal Regulations
CRM	Cultural Resources Manager
CRREL	Cold Regions Research and Engineering Laboratory
CRTC	Cold Regions Test Center
DOC	Directorate of Contracting
DoD	Department of Defense
DOL	Directorate of Logistics,
DPW	Directorate of Public Works
EA	Environmental Assessment
EIS	Environmental Impact Statement
EO	Executive Order
EPR	Environmental Program Requirements
EQR	Environmental Quality Report
GBI	Ground-Based Interceptor
GMD	Ground-Based Midcourse Defense
HABS	Historic American Buildings Survey
HAER	Historic American Engineering Record
HQDA	Headquarters, Department of the Army
ICRMP	Integrated Cultural Resources management Plan
ISR	Installation Status Report
ITAM	Integrated Training Area Management
MACOM	Major Army Command
MOA	Memorandum of Agreement
MOU	Memorandum of Understanding
NAGPRA	Native American Graves Protection and Repatriation Act
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NRHP	National Register of Historic Places
NWTC	Northern Warfare Training Center
OHA	Alaska Office of History and Archaeology
PA	Programmatic Agreement
PAO	Public Affairs Officer
POM	Program Objective Memorandum
SHPO	State Historic Preservation Officer

SOP	Standard Operating Procedure
TCC	Tanana Chiefs Conference
U.S.	United States
USACE	U.S. Army Corps of Engineers
USAG-AK	U.S. Army Garrison Alaska
USASMDC	U.S. Army Space and Missile Defense Command
USSR	Union of Soviet Socialist Republics

NOTES

1.0 EXECUTIVE SUMMARY

This executive summary provides an overview of the Integrated Cultural Resources Management Plan (ICRMP) for Fort Greely, Alaska. It summarizes each section, explaining its purpose and how it relates to the ICRMP, and provides an understanding of how the ICRMP works. The ICRMP has been prepared to meet requirements set by Army Regulation 200-4. It outlines procedures for cooperation and consultation with the Advisory Council on Historic Preservation (ACHP), the Alaska State Historic Preservation Office (SHPO), interested parties, and the public.

Section 2.0 - Introduction

The region encompassing Fort Greely represents a landscape shaped by various forces over thousands of years. These include the erosional forces of climatic change, glaciation and deglaciation, vegetational shifts, and the effects of human habitation. Evidence of this habitation includes prehistoric hunting camps, roadhouses, roads and trails, World War II buildings and structures, and Cold War buildings and structures. Human activities continue to shape the landscape through new missions of Fort Greely, including missile defense activities. These activities leave records on the landscape for future generations to manage. All these resources, old and new, collectively form the present cultural landscape.

Prehistoric habitation of the area where Fort Greely now stands began about 11,000 years ago and ended about 150 years ago. The historic period began with the arrival of Russian traders in the 1810's and English traders in the 1840's. When the United States (U.S.) purchased Alaska in 1867, American traders and prospectors entered the region. Gold discoveries in the 1880's brought a large influx of people to the area. The U.S. Army entered the region at this time to conduct a series of explorations. Responding to the need for better communications, the Army constructed the Washington-Alaska Military Cable Telegraph System from 1899 to 1906. During World War II, Allen Army Airfield played a pivotal role in the transfer of U.S. Lend-Lease aircraft to the Union of Soviet Socialist Republics (U.S.S.R.). Following World War II, the U.S. Army again focused on cold weather testing and training in Alaska. To support these activities, Fort Greely underwent a major construction program in the 1950's.

A body of laws has been passed to protect and preserve historic resources under the jurisdiction of Federal agencies. It is the Garrison Commander's responsibility to ensure compliance with these laws and to implement the ICRMP. The Garrison Commander will, through his appointed Cultural Resources Manager (CRM), coordinate activities with this ICRMP. It is the CRM's responsibility to coordinate with users and interested parties to ensure compliance with historic preservation laws and regulations on Fort Greely. The laws specifically addressed in this ICRMP are listed in Table 1-1.

Section 3.0 - Legal Foundation and Methodology for ICRMP

Pursuant to AR 200-4, the Fort Greely Garrison Commander is responsible for compliance with historic preservation laws on Fort Greely¹. Section 3.0 reviews the preservation laws applicable to Fort Greely. It provides an analysis of the Army's current preservation program with respect to these laws. This is the legal foundation for the ICRMP and a basis for establishing the action plan for the ICRMP.

The National Historic Preservation Act (NHPA) establishes a national program for historic preservation. Regulations and guidelines in this Act include Federal agency responsibilities, consideration of effects of

¹ Section 301(8) of the NHPA defines historic preservation as identification, evaluation, recordation, documentation, curation, acquisition, protection, management, rehabilitation, restoration, stabilization, maintenance, research, interpretation, conservation, and education and training, regarding the foregoing activities or any combination of the foregoing activities.

Table 1-1. Cultural Resources Laws, Regulations, Executive Orders, and Guidelines*

Public Law 89-665	National Historic Preservation Act of 1966, as amended
Public Law 96-95	Archaeological Resources Protection Act of 1979
Public Law 101-601	Native American Graves Protection and Repatriation Act of 1990
43 CFR § 10	Native American Graves Protection and Repatriation Regulations
48 CFR § 44716	Archaeology and Historic Preservation: Secretary of the Interior's Standards and Guidelines
32 CFR § 229	Protection of Archaeological Resources
36 CFR § 60	National Register of Historic Places
36 CFR § 67	The Secretary of the Interior's Standards for Rehabilitation
36 CFR § 68	The Secretary of the Interior's Standards for Preservation Projects
36 CFR § 79	Curation of Federally-owned Archaeological Resources
36 CFR § 800	Protection of Historic and Cultural Properties
Executive Order 11593 (1971)	Protection and Enhancement of the Cultural Environment
Executive Order 13007 (1996)	Indian Sacred Sites – May 24, 1996
Executive Order 13084 (1998)	Consultation and Coordination with Indian Tribal Governments
AR 200-4	Cultural Resources Management

**Includes only the legislation most applicable to Fort Greely*

Federal undertakings on historic properties, curation of Federally owned and administered artifacts, and documentation of historic properties by private and public parties². These are outlined in Section 110, Section 106, and Section 101(a) of the Act, respectively. The Native American Graves Protection and Repatriation Act (NAGPRA) provides for the disposition of Native American human remains, funerary objects, sacred objects, and objects of cultural patrimony removed from Federal and tribal lands. NAGPRA requires consultation with Native American tribal entities with respect to the disposition of cultural items discovered on Federal and tribal lands. The Archaeological Resources Protection Act (ARPA) protects archaeological resources on public and Indian lands that are at least 100 years old. ARPA defines illegal activities and prescribes civil and criminal penalties for each infraction, establishes a permitting process for removal of archaeological resources from public and Indian lands, and provides for the confidentiality of archaeological site location information.

Analysis of the current historic preservation program on Fort Greely shows that a number of actions must be taken during the five year period from 2004 through 2009 to address concerns associated with each of the above laws. Those actions and associated expenditures are described in Chapter 6.

Achieving and maintaining compliance with historic preservation laws requires an understanding of how to follow various historic preservation guidelines, carry out certain preservation activities, and meet specific

² Section 301(7) of the NHPA defines an undertaking as a project, activity, or program funded in whole or in part under the direct or indirect jurisdiction of a Federal agency, including those carried out by or on behalf of the agency; those carried out with Federal financial assistance; those requiring a Federal permit, license, or approval; and those subject to State or local regulation administered pursuant to a delegation or approval by a Federal agency. Section 301(5) of the NHPA defines a historic property or historic resource as any prehistoric or historic district, site, building, structure, landscape or object included in or eligible for inclusion in the National Register, including artifacts, records, and material remains related to such a property or resource.

requirements. Section 3.3, Standards and Methodology, provides guidance on how to implement the action plan provided in Section 1.6 and carry out preservation activities required by the Standard Operating Procedures (SOPs) provided in Section 4.0. The CRM will use this guidance to ensure compliance with historic preservation laws.

Section 4.0 - Standard Operating Procedures

Most historic preservation activities can be carried out using a routine set of procedures. The SOPs in Section 4.0 have been developed for such activities. Each SOP identifies responsible parties, participants in the SOP, procedures for non-cultural resources management personnel, and procedures for the CRM. Where necessary, the user is referred to guidance provided in Section 3.3 to assist in carrying out specific preservation actions required by the SOP. It is the Garrison Commander's responsibility to ensure that all military and nonmilitary organizations on Fort Greely coordinate their actions with the CRM to ensure compliance with NHPA, NAGPRA, ARPA, and other applicable preservation laws. The SOPs provided in this ICRMP are:

1. Compliance with Section 106
2. Compliance with the Archaeological Resources Protection Act of 1979
3. Accidental Discovery of Archaeological Materials
4. Compliance with the Native American Graves Protection and Repatriation Act of 1990
5. Curation of Artifacts
6. Cultural Resources Contracting
7. Archaeological Site Disclosure
8. Maintenance and Repair of Historic Properties
9. Interaction with the Public and Interested Parties.

Section 5.0 - Cultural Resources Inventory

To manage a resource successfully it is necessary to know the resource. The historic context, presented in the Introduction to the document, provides a general overview of the Fort's histories and an understanding of what historic properties exist or might be found at Fort Greely. This section provides an overview of investigations that have been done, literature generated by the investigations, and the inventory of historic properties resulting from such investigations. As of February 2004, there were six known archaeological sites and 26 historic buildings and structures identified on Fort Greely. Properties identified in this inventory as National Register of Historic Places (NRHP) properties or NRHP eligible and archaeological sites are subject to the historic preservation laws and this ICRMP. As other investigations are undertaken, more historic properties or archaeological sites could be added to this inventory and will also be subject to these laws and this ICRMP.

Section - 6.0 Implementing the ICRMP

To implement this ICRMP, the Garrison Commander must complete the following actions:

1. Direct the preparation of an Environmental Assessment (EA) to support implementation of the ICRMP and initiate a public review of the ICRMP in accordance with the National Environmental Policy Act (NEPA) and AR 200-4.
2. Initiate a MACOM review of the ICRMP in accordance with AR 200-4.
3. Sign the ICRMP after MACOM comments have been addressed.

After the ICRMP has been reviewed and approved, the Garrison Commander will be required to take the following actions to complete implementation:

1. Designate a professional Cultural Resources Manager (CRM) who meets the "Secretary of the Interior's Professional Qualifications Standards," and task the individual to implement and coordinate the ICRMP.
2. The Garrison commander will establish a government to government relationship with federally recognized Indian tribes, as needed IAW AR 200-4,1-9(c). If there are significant Native American issues, he will also designate an installation "Coordinator for Native American Affairs" to facilitate the government to government relationship. The Garrison commander will ensure that the Coordinator for Native American Affairs has appropriate knowledge, skills, and professional training and education to conduct installation consultation responsibilities with Indian tribes.
3. Establish a process that requires installation staff, tenants, contractors, users and interested parties to coordinate with the CRM early in the planning of projects and activities to ensure compliance with Section 106 of the National Historic Preservation Act.
4. Establish funding priorities and provide program funds for cultural resources compliance and management activities.
5. Provide all Army cultural resources reporting information to HQDA to include the Installation Status Report (ISR), the Environmental Quality Report (EQR), and the Environmental Program Requirements (EPR) Report³.
6. Provide for the annual review of the ICRMP and initiate revision of the ICRMP if the annual review indicates a need for such revision.

The CRM, with oversight of the Environmental Coordinator, will play a primary role in implementation of this ICRMP. In this role the CRM, will coordinate compliance with historic preservation laws and Army regulations on behalf of the Garrison Commander. The CRM will coordinate with users, interested parties, and the public to ensure compliance with Sections 101(a), 106, 110, and 112 of the NHPA, NAGPRA, and ARPA. In addition, the CRM will coordinate consultation with interested parties to address management concerns that affect the ability of the Fort Greely Environmental Office to comply with historic preservation laws and regulations.

³ The EPR Report serves as a source document in programming, budgeting, and allocating resources needed to execute the Army Environmental Program. It is used to show past accomplishments and expenditures; to indicate the status of current projects; to refine and validate requirements for budget year; and to support planning, programming, and budgeting for the outyears to build the Program Objective Memorandum (POM). In addition, EPR data is used for Congressionally-mandated lists of funded projects that are part of the DoD Env Quality Report to Congress.

2.0 GENERAL INFORMATION

2.1 Introduction

The area that encompasses Fort Greely represents a landscape that has been and continues to be shaped by various forces. During the Wisconsin Ice Age 14,000 years ago, the landscape reflected a colder climate. The region consisted of a treeless shrub-herb tundra environment inhabited by a variety of mega-fauna. As the climate warmed, the flora and fauna changed to reflect more of what is seen today. Approximately 12,000 years ago, the peopling of the Interior began affecting the landscape. Initial impacts represented subsistence activities of nomadic groups adapted to a steppe-tundra environment. Over time, landscape impacts increased with population increases and levels of environmental manipulation. Today, the landscape reflects a myriad of human activities from the establishment of transportation networks and cantonments to gold extraction. Changes to the landscape continue to occur through the missions of Fort Greely. These changes will leave records on the landscape for future generations to manage. These records collectively form the present cultural landscapes.

Management of these cultural landscapes requires an understanding of what resources make up the cultural landscape, the agents that have affected them, and those that have the potential to affect them in the future. Section 2.0 provides information on user groups that may affect the landscape and resources contained in it, as well as parties interested in seeing that management is conducted in a sound manner consistent with local, state, and national interests. Finally, this section presents the laws and regulations that affect how management should address the historic properties represented on Fort Greely. Section 2.0 sets the foundation upon which the following sections are built.

2.2 Location

Fort Greely, located in the Alaska Interior, is adjacent to the town of Delta Junction (population 849), approximately 105 miles southeast of Fairbanks. Fort Greely consists of a cantonment and the Ground-based Missile Defense (GMD) Ground-Based Interceptor (GBI) site comprising approximately 7,000 acres.

2.3 Geographic Overview

Understanding the geography of interior Alaska is important to understanding why and where historic properties exist, and how they came into being. The prehistoric peopling of interior Alaska occurred because geographic conditions were right for it. The existence of these conditions into historic times has encouraged continued use of the region. An explanation of the region's geography is presented in the following paragraphs.

2.3.1 Past

The Alaska Range, the most imposing physical feature of interior Alaska, is one of the most influential aspects of the past and present geography of the region. Its most direct effect is on the climate of the region. Interior Alaska is in its rain shadow, which means that as warm, moisture-laden storm systems approach the Interior from the south, they run up against the Alaska Range. As they are forced up and over the Range, they cool off and release their moisture. When the cool, dry air drops down the north side of the Range, it heats up and picks up moisture as it goes, carrying moisture away from the Interior. During the Wisconsin Ice Age 14,000 years ago, this effect, combined with cooler temperatures, resulted in an extensive glacial environment to the south of the Range and a broad, ice-free steppe-tundra environment to the north (see Figure 2-1).

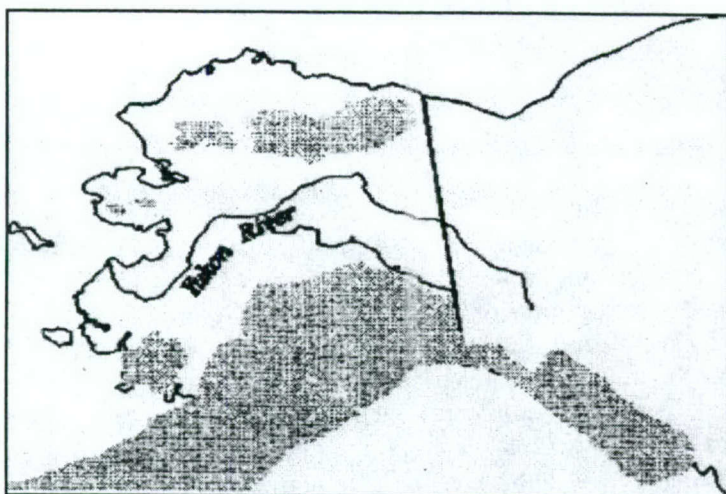


Figure 2-1. Shaded area represents extent of glacialiation during the Wisconsin Ice Age. (Adapted from illustration in *Quaternary Geology of Alaska* by Troy L. Pewe.)

The steppe-tundra environment of interior Alaska was characterized by treeless shrub-herb tundra comprised of grasses, sedges, shrubs, and various herbs, and sparsely vegetated floodplains.¹ This environment supported a variety of large herbivorous mammals such as bison, mammoths, and horses. Mastodons, camels, moose, caribou, antelopes, elks, and yaks were also present.² Early humans preyed upon these animals, using high elevation overlooks such as buttes, to locate and track them. This predation is believed to have been partially responsible for the extinction of the mammoth, which began suffering the stress of climatic and environmental change associated with the end of the ice age about 13,000 years ago.

As the climate warmed, the geography changed. About 12,000 years ago, ferns, dwarf birch, and shrub willow began appearing in river valleys. Birch, white spruce, and northern berries expanded into the Interior about 10,000 years ago, coinciding with a warming trend. This was marked by a period of glacial retreat that had two periods of acceleration, one about 8,500 years ago and another about 4,000 years ago. Alder emerged about 8,400 years ago and has remained an important component of the vegetation since. Spruce forests increased until about 7,000 years ago, when the current vegetation pattern became relatively stable.³

By 9,500 years ago, most of the large steppe-tundra mammals had disappeared from interior Alaska, with moose, caribou, and Dall sheep replacing them as the dominant species. Other animals appeared or continued to thrive, including wolves, wolverines, beavers, porcupines, lynxes, black bears, brown bears, and foxes.⁴

2.3.2 Present

The Interior continues to be influenced by the rain shadow caused by the Alaska Range. This effect, combined with warmer temperatures, has resulted in the development of a sub-arctic continental climate in the region. This is characterized by interior forest dominated by white spruce and birch. Other flora common to the region are black spruce, tamarack, poplars, aspen, and willow.⁵ The fauna of the region has remained relatively stable for the last 9,500 years.

¹ Thomas A. Ager, "Holocene Pollen and Sediment Record from the Tangle Lakes Area, Central Alaska," in *Paleontology*, vol. 5 (Washington, D.C.: U.S. Government Printing Office, 1981), pp. 85-98.

² Troy L. Péwé, *Quaternary Geology of Alaska*, U.S. Geological Survey Professional Paper 835 (Washington, D.C.: U.S. Government Printing Office, 1975), p. 97.

³ Péwé, *Quaternary Geology of Alaska*, U.S. Geological Survey Professional Paper 835, p. 32; Thomas A. Ager, *Late Quaternary Environmental History of the Tanana Valley, Alaska* (M.A. Thesis, Ohio State University, 1975), p. 129.

⁴ E.J. Dixon, George S. Smith, and David C. Plaskett, *Archaeological Survey and Inventory of Cultural Resources, Fort Wainwright, Alaska* (Fairbanks: University of Alaska Museum, 19N0), pp. 39-41; E.J. Dixon, *Quest for the Origins of the First Americans* (Albuquerque: University of New Mexico Press, 1993), pp. 75-76, 86; Péwé, *Quaternary Geology of Alaska*, U.S. Geological Survey Professional Paper 835, p. 103.

⁵ Edward B. Hosley, "Environment and Culture in the Alaska Plateau," in *Handbook of North American Indians: Subarctic*, Vol. 6 (Washington, D.C.: Smithsonian Institution, 1981), pp. 533-534.

As the temperatures have increased, rivers and streams of the broad Tanana Valley have cut through old silt deposits and glacial moraine deposited during the Ice Age, creating the terraced landscape that prevails today. This physiography exemplifies a river system that descends from glaciers in the Alaska Range. From lookout points along the Richardson Highway, the ice-affected landscape is apparent. Elevation extremes on the posts stem from their locations on Yukon-Tanana Uplands and the foothills of the Alaska Range.

The heavily braided Delta and Little Delta Rivers descend rapidly from the Alaska Range and dominate the physiology of the region. Jarvis Creek, another braided stream, forms the eastern boundary of the Fort.

The landscape seen today was formed by various erosional forces over thousands of years. Climatic changes, freezing and thawing, glaciation and deglaciation, water, vegetational shifts, and effects of human activities have all altered the landscape of the Delta Valley. Until recently, human influence was minimal, limited primarily to trails and seasonal camps. Only within the last 150 years has human influence become more visible. Through mining, roads, railroads, towns, cities, and military activities, people have changed the landscape more rapidly than all the human activities of the previous 12,000 years.

2.4 Historic Context

Through the manipulation of natural resources by prehistoric and historic peoples, the cultural landscape is formed. This manipulation may be as simple as shaping stone into tools or setting up a temporary campsite, or as complicated as building a military base or establishing transportation networks. Each of these human activities leaves records (historic properties) on the land. This section lays the foundation for understanding why historic properties exist on Fort Greely.

2.4.1 Prehistory

Alaska's earliest inhabitants were nomadic hunters traveling in small bands, probably following herd animals from Siberia during the Wisconsin Ice Age. They arrived in Interior Alaska at least 13,000 years ago, beginning a habitation that persisted through the arrival of European traders in the late 1810's. The region's ice-free environment during the Wisconsin Ice Age sets the stage for this long habitation period. At that time, the region was a treeless steppe-tundra environment, supporting migrating herds of grazing animals such as bison, horses, and mammoths that these early peoples successfully preyed upon.⁶

The nomadic lifestyle of Alaska's earliest inhabitants, the organic nature of the materials they manufactured and used, and changed environmental conditions have made it difficult to find evidence of their cultures. It is generally limited to lithic (stone) artifacts such as projectile points, cutting tools, scrapers, waste flakes from the manufacturing of these tools, and hearths. Archaeologists generally divide Interior Alaska's prehistory into three broad archaeological themes, according to the tools and tool making technology of the three prehistoric groups that inhabited the region at various times.⁷ These are the Paleoarctic Tradition (12,000 to 8,000 years ago), the Northern Archaic Tradition (6,500 to 1,000 years ago), and the Athabaskan Tradition (2,500 to 150 years ago).⁸ Sites representing each of these have been discovered on or near Fort Greely.

⁶ Péwé, *Quaternary Geology of Alaska*, U.S. Geological Survey Professional Paper 835, pp. 87-88, 99-101

⁷ Theme is a trend or pattern in history or prehistory relating to a particular aspect of cultural development, such as dairy farming or silver mining. U.S. Department of the Interior, National Park Service, Cultural Resources, *How to Complete the National Register Registration Form* (Washington, D.C.: National Register of Historic Places, National Park Service, Department of the Interior, 1997), p. Appendix IV: 4.

⁸ A tradition is used in the examination and classification of industries to describe a continuing development of style that retains elements of the original industry. In America it can also refer to a sequence of cultures which develop out of each other. Sara Campion, *Dictionary of Terms and Techniques in Archaeology* (New York: Everest House Publishers, 1980), p.133.

2.4.1.1 Paleoarctic Tradition – The Paleoarctic Tradition represents the earliest human group known to inhabit Alaska, a people adapted to a steppe-tundra environment. They camped on terraces, buttes, and bluffs using high ground to locate and track their prey, which would have included large mammals such as mammoths and bison. The treeless environment and nomadic nature of these peoples had a direct impact on the kinds of tools they fashioned. Stone, bone, antler, and ivory provided the most abundant material for manufacturing weapons and cutting tools. Artifacts associated with this culture include small stone microblades and microblade cores. These microblades could be easily carried or fashioned from available materials as ancient people followed migrating animals in seasonal hunting rounds. Microblades were imbedded lengthwise into slots cut in bone, antler, or ivory shafts, creating a projectile point with cutting edges.

Artifacts recovered from three sites near the Blair Lakes Archaeological District (FAI-335) on Fort Wainwright suggest a prehistoric habitation of 10,600 years. Approximately twenty sites representing the Paleoarctic Tradition have been identified on Fort Greely.⁹ The Donnelly Ridge Archaeological District is located about 20 miles southwest of Fort Geely, represents the Denali Complex, the earliest identifiable culture of the Paleoarctic Tradition. One radiocarbon date obtained from a site located near Jarvis Creek places the earliest verifiable date of habitation of the Fort Greely area at 9,000 years ago. The Broken Mammoth Site (XBD-131) is located on a bluff about 20 miles north of Fort Greely. At 12,000 years old, this site currently represents the oldest evidence of human habitation in Alaska.¹⁰ Almost 90% of all Paleoarctic Tradition habitation sites identified on the Forts are located on ridges, hills, bluffs and terraces.¹¹

2.4.1.2 Northern Archaic Tradition – The Northern Archaic Tradition appeared about 6,000 years ago as an adaptation to the forest environment of Interior Alaska and may have persisted until about 1,000 years ago. Artifacts discovered at other sites indicate that inhabitants of the Northern Archaic Tradition may have inhabited the sites after people of the Paleoarctic Tradition, suggesting a long period of continuous use sites. The appearance of side notched projectile points, a diagnostic tool type for the tradition, indicates that the development of the Northern Archaic culture was related to the expansion of the boreal forest. Artifact assemblages associated with this culture generally contain some, but not all, of a variety of tools ranging from bifacial knives and microblades to end scrapers and side notched points. Site XMH-1168 on Fort Greely is of this period, based on the side-notched point that was found there (see Figure 2-2).¹²

⁹ Dixon, Smith, and Plaskett, *Archaeological Survey and Inventory of Cultural Resources, Fort Wainwright, Alaska*, pp. 48-50; Glenn H. Bacon and Charles E. Holmes, *Archaeological Survey and Inventory of Cultural Resources at Fort Greely, Alaska 1979* (Fairbanks: Alaskarctic, 1980), p. 22; Georgeanne Reynolds, "Inventory of Cultural Resources and Overview: Phase I," in *Historic Preservation Plan for U.S. Army Lands in Alaska* (Fairbanks: Alaska Heritage Research Group, 1986), p. 93; Alaska Heritage Resource Survey records on file at the Alaska Office of History and Archaeology.

¹⁰ U.S. Department of the Interior, National Park Service: Alaska System Support Office, Division of Cultural Resources, *Archaeological Investigations of Five Remote Tracts of Land Within Denali National Park and Preserve, Alaska, 1988, 1989, Anchorage, Alaska, 1996*, 15-16; Charles E. Holmes, "Broken Mammoth," in *American Beginnings: The Prehistory and Palaeoecology of Beringia*, ed. Frederick Hadleigh West (The University of Chicago Press, 1996), 312-317.

¹¹ Reynolds, "Inventory of Cultural Resources and Overview: Phase I," pp. 126-127.

¹² Douglas D. Anderson, "Prehistory of North America" in *The Handbook of North American Indians: Arctic*, Vol. 5 (Washington, D.C.: Smithsonian Institution, 1984), pp. 73-74, 83-84, 95; U.S. Department of Interior, *Archaeological Investigations of Five Remote Tracts of Land Within Denali National Park and Preserve, Alaska 1988, 1989, Anchorage, Alaska, 1996*, pp. 17-19; Reynolds, "Inventory of Cultural Resources and Overview: Phase I," pp. 26, 121.



Figure 2-2. Northern Archaic Side Notched Point found at XMH-1168

2.4.1.3 Athabaskan Tradition – Athabaskans are generally divided linguistically and geographically into subgroups that inhabit or have inhabited Interior Alaska and Canada. Four such groupings are in the Tanana Valley: the Upper Tanana, Tanacross, Tanana, and Koyukon. These are further divided according to geographic location. The Salcha, Chena, Wood River, Goodpaster, and Healy Lake bands are identified according to certain cultural characteristics and geographic areas they have traditionally inhabited. Bands of the Tanana and Tanacross subgroups are historically associated with the geographic area that embodies Fort Greely. Salcha, Chena, Wood River, Goodpaster, and Healy Lake bands have inhabited the region since protohistoric times and probably from prehistoric times.¹³

Linguistic evidence suggests that the Athabaskan culture may have appeared in the Tanana Valley as early as 2,500 years ago. Through ethnography, oral history, and a broad array of cultural items, much has been learned about Athabaskan culture and history in the region. Cultural items include bone and antler projectile points, fishhooks, beads, buttons, birch bark trays, and bone gaming pieces. In the Upper Tanana region, copper was available and used in the manufacture of tools such as knives, projectile points, awls, ornaments, and axes.¹⁴

Athabaskan settlement patterns depended greatly on the availability of subsistence resources. Interior bands lived a nomadic lifestyle, depending to a greater extent on terrestrial animals for sustenance. They often traversed vast areas to support themselves and spent much of the winter engaged in subsistence activities.¹⁵ It was often necessary for bands to divide into smaller groups to find game. Salmon runs on the Tanana River were smaller, shorter, and less varied than those of the other rivers and thus did not form a major subsistence resource. Fish supplemented their diet during the lean winter months when finding game animals was most difficult.¹⁶

Use of the region varied from one band to the next. It has been speculated that one or more Ahtna bands may have used the area of Fort Greely during lean periods. In 1898, Lieutenant Castner observed a small hunting party of "Upper Copper River Indians." Ahtna also camped near the headwaters of the Delta

¹³ E.F. Andrews, "Salcha: An Athabaskan Band of the Tanana River and its Culture," (M.A. Thesis, University of Alaska Fairbanks 1975), pp. 146-164.

¹⁴ Donald Clark, "Prehistory of the Western Subarctic" in *The Handbook of North American Indian: Subarctic*, vol. 6 (Washington, D.C.: Smithsonian Institution, 1981), p. 120.

¹⁵ Holly Reckord, *That's the Way We Live: Subsistence in the Wrangell-St. Elias National Park and Preserve* (Fairbanks: Cooperative Park Studies Unit, University of Alaska Fairbanks, 1983), pp. 24-31.

¹⁶ Andrews, "Salcha: An Athabaskan Band of the Tanana River and its Culture," pp. 46-48, 69-74.

River, lending credence to this.¹⁷ The Salcha, Chena, Goodpaster, and Wood River bands of the Tanana Athabaskans and the Healy Lake band of the Tanacross Athabaskans also used certain parts of Fort Greely.

2.4.2 History

The history of Interior Alaska can be divided into four historic themes according to various kinds and levels of Euro-American activities. These are Early Contact (1810's to 1880's), Development of Transportation and Communication Networks (1890's to 1910's), World War II (1941 to 1945), and the Cold War (1946 to 1989).

2.4.2.1 Early Contact (1810's to 1880's) – Russian fur traders entered Interior Alaska from the south in the 1810's, establishing a post at Taral on the Copper River, and from the west in the 1830's, establishing a post at Nulato on the Yukon River.¹⁸ British traders from the east established Fort Yukon where the Porcupine River joins the Yukon River in 1847. Trade goods from Nulato may have made it to Tanana Athabaskans through Native middlemen and then to groups further up the Tanana, while goods from the Copper River post may have been traded to Upper Tanana Athabaskans by the Ahtna and then to groups further down the Tanana.

Contact between Tanana Athabaskans and white traders steadily increased during the 1860's and after. The Salcha traded with Russian and British traders at Nuklukayet (modern day Tanana) during the 1860's. With the U.S. purchase of Alaska in 1867, control of trading stations and the fur trade passed to Americans. Through the 1880's American traders established posts at several locations on the Yukon and Tanana Rivers, among them Nuklukayet, Belle Isle (modern day Eagle), and Fort Yukon.¹⁹ Trade goods included tobacco, cloth, axes, flour, sugar, firearms and ammunition, cooking utensils, knives, and other items.

As they became increasingly dependent on traders, Natives began to live a more sedentary lifestyle. Guns allowed them to obtain game with greater efficiency. Clothing, staples, tools, and other necessities could be obtained through trade. The natives began to construct permanent houses, abandoning their traditional seasonal hunting ground. Although events of this era surely occurred in or around Fort Greely, no sites associated with early contact have been identified there.

2.4.2.2 Development of Transportation and Communication Networks (1890's to 1910's) –

During the early years, the primary means of getting people and supplies into the Interior was by riverboat. Riverboats traveled up the Yukon River, from St. Michael on the Bering Sea, to the Tanana River and down the Yukon River, from the White Pass & Yukon railhead at Whitehorse, to the Tanana River. Boats, some capable of carrying up to 500 tons of supplies and 225 passengers, traveled to Fairbanks from June 1 through mid October.²⁰

To open an overland route to Fairbanks and the Interior mining camps, the U.S. Army developed the Valdez-Fairbanks Trail. The Trail began as a military trail built in 1899 by Captain William Abercrombie from Valdez to Eagle. With the establishment of Fairbanks in 1904, a branch of the trail was extended north from Gulkana to Fairbanks. In succeeding years, the trail was upgraded to a wagon road and, in 1913, the first automobiles used the road. Thousands of people and thousands of tons of supplies came into Interior

¹⁷ Joseph C. Castner, Lieutenant Castner's Alaskan Exploration, 1898: A Journey of Hardship and Suffering, (Anchorage: Cook Inlet Historical Society 1984), p.37.

¹⁸ William S. Hanable, Alaska's Copper River: The 18th and 19th Centuries, No. 21 (Anchorage: The Alaska Historical Commission, 1982), p. 29.

¹⁹ Dixon, Smith, and Plaskett, Archaeological, Survey and Inventory of Cultural Resources, Fort Wainwright, Alaska, p. 60

²⁰ Matheson and Haldeman, Historic Resources in the Fairbanks North Star Borough, Fairbanks, Alaska, p. 31.

Alaska over this route.²¹ Roadhouses along the route catered to the pioneers. The Pile Driver or 30-Mile Roadhouse on Fort Wainwright and Sullivan's Roadhouse on Donnelly Range are examples of these.

Increased mining and trading in Alaska led the Army to consider the need for better communications. Their response was the Washington-Alaska Military Cable Telegraph System, constructed in sections between 1899 and 1906. One section ran from Fort Liscum to Fort Egbert, crossed the Fortymile region east of Fort Greely, and then went down the Tanana River to Fort Gibbon near the village of Tanana. The U.S. Army Signal Corps established a telegraph station three miles from the mouth of the Salcha River in 1902 and another at Big Delta in 1904.²²

Roadhouses associated with the Valdez-Fairbanks Trail are known to exist in the Fort Greely region. Gordon's Roadhouse and the Sullivan's Roadhouse Site are located near Fort Greely. In a partnership between the Army, the Bureau of Land Management, and the State Historic Preservation Office (SHPO), Sullivan's Roadhouse was moved from Fort Greely to nearby Delta Junction in 1996 where it is now an interpretive center.

2.4.2.3 World War II (1941 to 1945) – U.S. entry into World War II significantly impacted Ladd Field in Fairbanks and other areas of interior Alaska. The history of the installation that was to become Fort Greely is inextricably tied to that of Ladd Field. After the Japanese attack on Pearl Harbor on December 7, 1941, Ladd Field was placed on alert status and civilians on the post were evacuated. Japan's invasion of the Aleutians in June 1942 had the most impact on Ladd Field in terms of its growth. Activities of the Sixth Air Depot Group, the Cold Weather Test Station, and (later in 1942) the Air Transport Command resulted in a major expansion of facilities at Ladd Field. This buildup continued almost non-stop through 1945.

Ladd Field's mission as the North American terminus of the Alaska-Siberia Lend-Lease Program (ALSIB) route was its most important contribution to World War II. From 1942 to 1945, Soviet pilots received training at Ladd Field in U.S. aircraft before flying them across Siberia to the Eastern Front. To facilitate delivery of Lend-Lease aircraft, a unit of the Air Transport Command was sent to Ladd Field. The first planes, consisting of five A-20's, arrived at Ladd Field on September 3, 1942, followed by 22 P-40's on September 11. The first Russian pilots arrived on September 24 to begin five days of training. On October 9, 1942, Lt. Col. Nedosekin, of the Soviet Air Force, led the first twelve A-20's to be flown by Soviet pilots from Ladd Field.²³ Almost 8,000 aircraft were delivered over this route from 1942 to 1945.

When the Alaska Highway was completed, the Army established "Station 17," an old Civil Aviation Administration (CAA) airstrip, a few miles south of the junction of the Alaska highway and the Richardson Highway. The Army Air Transport Command used Station 17 as a staging field for military operations and as an auxiliary transfer point for Russian and American pilots involved in the Lend-Lease Program.²⁴ A Birchwood Hangar, facilities for 854 officers and enlisted men, a steam plant, a 14-bed hospital, and four 25,000-gallon storage tanks were included in the initial construction at Big Delta. (Several of these buildings still exist at Fort Greely; however, none is considered eligible for the National Register because of changes in the structures since they were constructed.) Station 17 was used primarily as an alternative to Ladd Field and as a practice landing field for Soviet pilots.²⁵

²¹ Matheson and Haldeman, *Historic Resources in the Fairbanks North Star Borough*, Fairbanks, Alaska, pp. 22-23,40

²² Dixon, Smith, and Plaskett, *Archaeological Survey and Inventory of Cultural Resources, Fort Wainwright, Alaska*, p. 63; Andrews, "Salcha: An Athapaskan Band of the Tanana River and its Culture," p. 28; John H. Cloe and Michael F. Monaghan, *Top Cover for America: The Air Force in Alaska 1920 -1983* (Anchorage: Anchorage Chapter - Air Force Association and Pictorial Publishing Company, 1984), p. 1.

²³ Deane Brandon, "ALSIB; The Northwest Ferrying Route Through Alaska, 1942-1945," *American Aviation Historical Society Journal*, 20 (spring 1975) pp. 25, 27

²⁴ CH2M Hill, "Preliminary Assessment, Fort Greely Alaska", (U.S. Army Engineer District Alaska, 1992), p. 27

²⁵ Charles M. Mobley, *Historic Architecture Inventory and Evaluation of Fort Greely, Delta Junction, Alaska* (Anchorage: Charles M. Mobley & Associates, 1997), p. 10.

2.4.2.4 Cold War, 1946 to 1989 – Relations between the United States and the Soviet Union deteriorated rapidly after World War II. In response, the War Department established the Strategic Air Command (SAC), with headquarters in Washington, D.C. In 1946, SAC organized its first air unit at Ladd Field to begin developing a system of Polar navigation. After the formation of the U.S. Air Force in 1947, Ladd Field was designated an Air Force Base (AFB).²⁶ Electronic intelligence (ELINT) B-29's, a prototype of the RB-29, began flying electronic reconnaissance missions out of Ladd AFB in 1947.

Station 17 was inactivated in 1945. The CAA and a small Army crew maintained the base until 1947. In April 1947, the War Department officially designated Big Delta an Army post and placed it on active status. In 1948, the U.S. Army established the Arctic Training Center at Station 17 and renamed the post "United States Troops-Big Delta."²⁷ Cold weather testing and training were the missions of the Arctic Training Center. Construction of facilities to support the post's cold weather missions began in 1954 in the current cantonment area. Housing, warehouses, and the military's first nuclear power plant were part of this program. In 1954, the post was designated "Fort Greely." Through various reorganizations, the Army's testing and training programs at Fort Greely became separate entities, known as the Northern Warfare Training Center and the Cold Regions Test Center.²⁸

In 1961, the U.S. Air Force moved its operations to Eielson AFB, 26 miles southeast of Fairbanks, and transferred Ladd AFB to the Army. Ladd AFB was renamed Fort Wainwright. This allowed the Army to expand its cold weather testing and training program in Alaska. The Army established the Cold Regions Research and Engineering Laboratory (CRREL) that year. During the war in Vietnam, improvements at Fort Greely focused primarily on equipment modernization, rather than on new construction. Arctic training again was emphasized in the 1970's, with exercises conducted annually. In 1986, the 6th Infantry Division (Light) was activated at Fort Wainwright. The primary mission of the 6th Infantry Division (Light) was to function as a rapid deployment force, ready to deploy worldwide on short notice. Much of the 6th Infantry Division's training occurred at Fort Greely.²⁹

In the post-Cold War period, Fort Greely was part of a significant military reduction and reorganization. Instead of stationing a division at Fort Wainwright as planned, the Army activated a brigade. In 1995, the Defense Base Closure and Realignment Commission selected Fort Greely as one of eleven U.S. Army posts to undergo realignment.³⁰ However, new requirements for basing interceptor missiles as part of a Ballistic Missile Defense System (BMDS) resulted in renewed activity at Fort Greely. The new realigned BMDS Fort Greely includes only approximately 7,200 acres. This includes the airfield, cantonment area and the missile fields just south of the cantonment area. The remainder of the maneuver areas and firing ranges are now known as the "Donnelly Training Range" and is administered by Fort Wainwright.

2.5 Current Mission

In the last half of the twentieth century the various missions of the U.S. military have impacted the landscapes of Fort Greely. Continued use of the lands to meet mission requirements has the potential to impact existing cultural landscapes and associated historic properties as well as to create new landscapes. In 2002, the U.S. Army Space and Missile Defense Command (USASMDC) assumed control of the reduced Fort Greely and began planning the construction of a Ground-based Midcourse Defense (GMD) interceptor

²⁶ John T. Farquhar, "Northern Sentry, Polar Scout: Alaska's Role in Air Force Reconnaissance Efforts, 1946-1948," in *Alaska at War 1941-1945*, ed. Fern Chandonnet (Anchorage: The Alaska at War Committee, 1995), p. 402.

²⁷ CH2M Hill, "Preliminary Assessment, Fort Greely Alaska", (U.S. Army Engineer District Alaska, 1992), p. 27

²⁸ History of Fort Greely, Office of Public Affairs Historical Photos, ca 1950-1985, Endicott - Fort Richardson, Record Grp 77 (Records of Army Corps of Engineers), Box 9, File 206-03 Historical Photo Files, Ft. Greely, National Archives, Pacific Alaska Region.

²⁹ Denfeld, *Cold War in Alaska: A Management Plan for Cultural Resources*, pp. 39-41

³⁰ Defense Base Closure and Realignment Commission 1995 Report to the President

missile launch facility at Fort Greely. The first interceptors were deployed in the summer of 2004. Fort Greely's mission for the foreseeable future will be in support of anti-ballistic missile defense.

2.6 Program Responsibilities

Fort Greely is responsible for managing historic properties on approximately 7,000 acres in accordance with applicable Federal laws, regulations, and guidelines. This Integrated Cultural Resources Management Plan (ICRMP) is in compliance with these laws; Army Regulation 200-4, Cultural Resources Management, outlines responsibilities for installations, MACOMs, and supporting organizations with respect to these laws.

Management of historic properties on Fort Greely is an ongoing process. It is the responsibility of anyone who may initiate or undertake a project or activity at Fort Greely that could affect a historic property. The Cultural Resource Manager (CRM) is responsible for coordinating compliance with historic preservation laws on behalf of the Garrison Commander. The CRM will administer the ICRMP and oversee compliance with historic preservation laws and regulations on behalf of the Garrison Commander.

The cultural landscape is formed by past and present human activities. It is defined by a body of laws that preserve the historic properties that make up that landscape. Historic properties on Fort Greely must be managed according to this body of laws. The body of laws, regulations, orders, and guidelines specifically addressed in this ICRMP is listed in Table 2-1.

Table 2-1. Cultural Resources Laws, Regulations, Orders and Guidelines*

Public Law 89-666	National Historic Preservation Act of 1966, as amended
Public Law 96-95	Archaeological Resources Protection Act of 1979
Public Law 101-601	Native American Graves Protection and Repatriation Act of 1990
43 CFR § 10	Native American Graves Protection and Repatriation Regulations
48 CFR § 44716	Archaeology and Historic Preservation: Secretary of the Interior's Standards and Guidelines
32 CFR §229	Protection of Archaeological Resources
36 CFR §60	National Register of Historic Places
36 CFR §65	National Historic Landmarks Program
36 CFR §67	The Secretary of the Interior's Standards for Rehabilitation
36 CFR §68	The Secretary of the Interior's Standards for Preservation Projects
36 CFR §79	Curation of Federally-owned Archaeological Resources
36 CFR §800	Protection of Historic and Cultural Properties
Executive Order 11593 (1971)	Protection and Enhancement of the Cultural Environment
Executive Order 13007 (1996)	Indian Sacred Sites - May 24, 1996
Executive Order 13084 (1998)	Consultation and Coordination with Indian Tribal Governments
AR 200-4	Cultural Resources Management

**Includes only the legislation most applicable to Fort Greely*

2.7 Garrison Commander and Cultural Resources Manager

2.7.1 Garrison Commander

The Garrison Commander is responsible for compliance with the laws and regulations that govern cultural resources. It is the Garrison Commander's responsibility to implement this plan and through his appointed CRM, coordinate activities with this plan. Section 6.0, Implementing the ICRMP, more clearly identifies the responsibilities of the Garrison Commander with respect to cultural resource management.

2.7.2 Cultural Resource Manager

The CRM, designated by the Garrison Commander, is the expert in cultural resources and the administrator of the ICRMP. The CRM acts on behalf of the Garrison Commander to coordinate compliance with this ICRMP. Section 6.0, Implementing the ICRMP, identifies the responsibilities of the CRM. The CRM for Fort Greely is located in the Directorate of Public Works (DPW), Environmental Coordinator's Office. As the individual responsible for the administration of this ICRMP, the CRM coordinates with users and interested parties to ensure compliance with historic preservation laws and regulations on Fort Greely.

2.8 User Groups

Numerous organizations use Fort Greely under host-tenant agreements. Other organizations arrive periodically to use the facilities under temporary agreements. These users have the potential to affect the historic properties on the Forts. They must be aware of laws and regulations governing historic properties and ensure their missions are in compliance with this ICRMP. Activities undertaken by the users that may affect historic properties must be coordinated with the CRM as outlined in Section 4.0, Standard Operating Procedures. The following subsections identify key users of Fort Greely.

2.8.1 Ground-Based Midcourse Defense

The Ground-Based Midcourse (GMD) Program Office operates the BMDS missile field and associated support facilities at Fort Greely. GMD is the principal tenant activity at Fort Greely. GMD includes the civilian military and civilian contractor personnel who provide logistics and technical support for the BMDS.

2.8.2 49th Missile Defense Battalion

The 49th Missile Defense Battalion is the military arm who man the missile field and associated weapons system. The 49th also has the responsibility of providing security and military police functions for the missile field area.

2.8.3 Directorate of Public Works

The DPW performs a variety of functions that include property management, engineering, environmental resource management, housing, fire prevention, facilities maintenance and operation, grounds maintenance, refuse, utilities, and cultural resources management.

2.8.4 Directorate of Logistics

The mission of the Directorate of Logistics (DOL) is to provide installation logistical support. This support includes vehicle and equipment maintenance, transportation, services and supplies, planning and operation, and information systems.

2.8.5 Law Enforcement

Department of the Army (DA) Police are responsible for the safety and security of the personnel and property on Fort Greely and for enforcing U.S. laws. Ensuring that historic properties are protected against vandalism, and enforcing the Archaeological Resources Protection Act (ARPA) are also the responsibility of the DA Police.

2.8.6 Directorate of Contracting

The Directorate of Contracting (DOC) performs purchasing and contracting functions for Fort Greely, including operations, maintenance, and renovation contracts. In some situations, the DOC may contract with outside cultural resources providers for work on Fort Greely. This office must be aware of cultural resources management policies for Fort Greely and stipulate these requirements in contracts when deemed appropriate by the CRM.

2.8.7 Directorate of Community Affairs

The Directorate of Community Affairs (DCA) provides education, child development, family support, and community recreation services to military personnel and dependents. One of DCA's functions is to provide information about the history, recreational opportunities, social events, and other related information of the Forts.

2.8.8 Public Affairs Office

The Public Affairs Office (PAO), headquartered at Fort Richardson, has subordinate offices at Fort Greely. The PAO is the liaison between the post and the public.

2.8.9 Cold Regions Test Center

The Cold Regions Test Center (CRTC) located at Fort Greely is a subordinate command of Yuma Proving Ground, headquartered near Yuma, Arizona, and the Cold Regions Test element of the U.S. Army Test and Evaluation Command, headquartered at Aberdeen Proving Ground in Maryland. CRTC tests a wide variety of military equipment, including aircraft, vehicles, munitions, weapons systems, clothing, and general equipment.

2.8.10 Colorado State University

Colorado State University (CSU) has a contract with U.S. Army Garrison – Alaska (USAG-AK) for archaeological support on Donnelly Range near Fort Greely. CSU has been provided office and storage space in the large hangar building at Allen Army Airfield. Although CSU's work is normally on non-Fort Greely property, they have been contracted through USAG-AK to conduct archaeological surveys at Fort Greely.

2.9 Interested Parties

A number of organizations, both public and private, have an expressed interest in historic properties on Fort Greely. As interested parties, these may be concerned with the effects of Army undertakings on historic properties. Under the National Historic Preservation Act (NHPA), these parties are given opportunities to participate in the Section 106 process. These organizations are identified in the following subsections. This list should not be considered complete. It is likely that other organizations, not included here, will have interests in historic properties at Fort Greely.

2.9.1 State Historic Preservation Office

The Alaska SHPO and staff are located in the Alaska Department of Natural Resources, Office of History and Archaeology (OHA), in Anchorage. Pursuant to Section 101 of the NHPA, the SHPO is responsible for administration of a State Historic Preservation Program as approved by the Secretary of the Interior. Although identified in this section as an interested party, the SHPO is a concurring party in the Army's management of historic properties under the NHPA. In addition, SHPO staff are available to lend technical assistance in cultural resources management issues.

State Historic Preservation Officer
Department of Natural Resources
Office of History and Archaeology
550 W 7th Ave, Suite 1310
Anchorage, AK 99501-1365

2.9.2 Advisory Council on Historic Preservation

The Advisory Council on Historic Preservation (ACHP), with a western office located in Lakewood, Colorado, is an independent Federal agency responsible for reviewing policies and programs of Federal agencies to ensure their consistency with the policies and programs of the NHPA, as amended. The ACHP provides guidance on the application of the procedures in the Section 106 process and generally oversees the operation of the Section 106 process. Although identified in this section as an interested party, the ACHP is a concurring party in the Army's management of historic properties under the NHPA.

Advisory Council on Historic Preservation
12136 W. Bayaud Ave., #303
Lakewood, CO 80226

2.9.3 Alaska Native Entities

Consultation with Indians and Alaska Native entities on issues concerning them on Federally owned and managed properties is required by NHPA, NAGPRA, ARPA, and the National Environmental Policy Act (NEPA). Executive Order 13084, *Government-to-Government Relations with Indian Tribes*, requires Federal agencies to consult with Federally recognized Native American tribes on a government-to-government basis. Native entities in Alaska, in addition to Federally recognized Alaska Native villages or tribes, include village corporations and regional corporations created under the Alaska Native Claims Settlement Act of 1971, as amended (ANCSA).

The Tanana Chiefs Conference (TCC), with offices in Fairbanks, is a Tribal Compact of 32 Athabaskan Tribal Councils in Interior Alaska. Pursuant to Public Law 93-638, TCC carries out the realty functions of the Bureau of Indian Affairs in the Fairbanks region. TCC may facilitate consultation between the Army and the Tribal Councils who belong to the Tanana Chiefs Conference. Tribal Councils may represent themselves in consultations with the Army or request assistance from TCC. The CRM must contact each Indian tribe official to ascertain if they or TCC will represent the tribe in cultural resource issues. The TCC has identified seven Tribal Councils that should be contacted for activities which may affect Native Alaskan traditional and cultural use properties. Contact information is shown in Table 2-2.

2.9.4 Delta Historical Society

The Delta Historical Society has been an interested party in the historic properties on Fort Greely for many years. The society is active in the identification and preservation of historic resources in the area.

Delta Historical Society
P.O. Box 987
Delta Junction, AK 99737-0987

2.9.5 Delta Chamber of Commerce

The Delta Chamber of Commerce has been an active member of the preservation community in Delta Junction. The Chamber was an interested party in the Sullivan's Roadhouse relocation project and operates the building as a museum.

Delta Chamber of Commerce
P.O. Box 987
Delta Junction, AK 99737-0987

Table 2-2. Native Alaska Tribal Contacts (as of 2004)

Tribe or Organization	Address	Phone/E-Mail	POCs
Dot Lake Village Council	PO Box 2279 Dot Lake, AK 99737	Ph: 907-882-2695 Fax: 907-882-5558 dotlake@aitc.org	William Miller, President Wayne Isaac, Vice President Charles Miller, Sr., Sec. / Tribal Adm.
Fairbanks Native Assoc., Inc	201 First Ave. Fairbanks, AK 99701	Ph: 907-452-1648 Fax: 907-456-4148 roratori@ptialaska.net	Chris Anderson, President Victor Joseph, Vice President Jeanne Nelson, Secretary Friburger Annette, Executive Director
Healy Lake Traditional Council	PO Box 60300 Fairbanks, AK 99706	Ph: 907-876-5018 Fax: 876-5023	Ben Saylor, Chief Gary Lee, 2 nd Chief Patricia MacDonald, Sec. / Treas. Joann Polston, Tribal Adm.
Nenana Traditional Council	PO Box 356 Nenana AK 99760	Ph: 907-832-5461 Fax: 907-832-1077	Charlie Stevens, Chief Gilbert Ketzler, 2 nd Chief / Judge Victor Lord, Treasurer
Northway Traditional Council	PO Box 406 Northway, AK 99764	Ph: 907-778-2311 Fax: 907-778-2220	Lorraine Titus, President Cheryl Silas, Vice President Adeline Gallen, Sec./Treas. Daisy Northway, Tribal Adm.
Tanacross IRA Council	PO Box 76009 Tanacross, AK 99776	Ph: 907-883-5024 /4496 Fax: 907-883-4497 jerry_isaac@hotmail.com	Jerry Isaac, President Roy Denny, Vice President Roselyn Isaac, Secretary
Tetlin IRA Council	PO Box TTL Tetlin, AK 99779	Ph: 907-324-2130 Fax: 907-324-2131	Donald Adams, President Bentley Mark, Jr., Vice President Rowena Paul, Sec./Treas. Kristie Young, Tribal Adm.
Tanana Chiefs Conference	122 First Avenue Ste. 600 Fairbanks Alaska, 99701	(907) 452-8251 ext. 3264 tom.obrien@tananachiefs.org	Tom Obrien, TERP Program Manager

3.0 LEGAL FOUNDATION AND METHODOLOGY FOR THE ICRMP

Army Regulation 200-4 requires each installation to prepare and implement an ICRMP. The legal foundation for AR 200-4 is in the body of Federal laws that address historic preservation.¹ This section reviews the preservation laws applicable to Fort Greely. Following each review is an analysis of Fort Greely's current preservation programs for compliance with each of these laws. Preferred actions for ensuring compliance with these laws are identified in the text as "*Action Items*." The Action Plan, found in Section 1.0, Executive Summary and in Section 6.0, Implementation Costs, lists these action items in the order they should be carried out.

3.1 Federal Historic Preservation Laws

Sections 3.1.1, 3.1.2, and 3.1.3 review the Federal Historic Preservation and Environmental Laws most applicable to Fort Greely and analyze their current preservation programs with respect to these laws. Laws specifically addressed here are the National Historic Preservation Act of 1966, The National Environmental Policy Act of 1969, the Native American Graves Protection and Repatriation Act of 1990, and the Archaeological Resources Protection Act of 1979.

3.1.1 National Historic Preservation Act of 1966, as amended

The National Historic Preservation Act of 1966, as amended (NHPA) establishes a national program for historic preservation. The NHPA directs the Secretary of the Interior to publish regulations and guidelines for a number of preservation policies. These include Federal agency responsibilities under the Act, consideration of the effects of Federal undertakings on historic properties, curation of Federally owned and administered artifacts, and documentation of historic properties by private and public parties.² These are discussed in Section 110, Section 106, and Section 101(a) of the NHPA, respectively, and are summarized in the following subsections.

3.1.1.1 Section 110 of the National Historic Preservation Act – Section 110, summarized in Table 3-1, outlines Federal agency responsibilities under the NHPA. Specific responsibilities on Fort Greely with respect to Section 110 are discussed in the subsections that follow. For a complete understanding of agency responsibilities under NHPA, consult Section 110 in the NHPA and the National Park Service's standards and guidelines for implementing Section 110.³

Action Item: *Initiate a review of the policies and procedures of Fort Greely to ensure consistency with the requirements of Section 110 of the NHPA.*

¹ Section 301(8) of the NHPA defines historic preservation as identification, evaluation, recordation, documentation, curation, acquisition, protection, management, rehabilitation, restoration, stabilization, maintenance, research, interpretation, conservation, and education and training regarding the foregoing activities or any combination of the foregoing activities.

² Section 301(7) of the NHPA defines undertaking as a project, activity, or program funded in whole or in part under the direct or indirect jurisdiction of a Federal agency, including those carried by or on behalf of the agency; those carried out with Federal financial assistance; those requiring a Federal permit, license, or approval; and those subject to State or local regulation administered pursuant to a delegation or approval by a Federal agency. Section 301(5) of the NHPA defines a historic property or historic resource as any prehistoric or historic district, site, building, structure, landscape, or object included in or eligible for inclusion in the National Register, including artifacts, records, and material remains related to such a property or resource.

³ U.S. Department of the Interior, National Park Service, The Secretary of the Interior's Standards and Guidelines for Federal Agency Historic Preservation Programs Pursuant to the National Historic Preservation Act (Washington, D.C.: National Park Service, 1998), 63 FR 2049620508.

Table 3-1. NHPA Section 110

Section 110(a)(1): The heads of all Federal agencies shall assume responsibility for preservation of historic properties that are owned or controlled by such agency. Each Federal agency shall use, to the maximum extent feasible, historic properties available to them.

Section 110(a)(2): Each Federal agency shall establish a preservation program for the identification, evaluation, and nomination of historic properties to the National Register of Historic Places, and protection of historic properties, in accordance with Section 106 of this Act.

Section 110(b): Historic properties adversely affected by Federal undertakings shall be appropriately recorded, and such records deposited, in accordance with Section 101(a), in the Library of Congress.

Section 110(c): The head of each Federal agency shall designate a preservation officer.

Section 110(d): All Federal agencies shall carry out agency programs and projects in accordance with the purposes of this Act.

Section 110(e): The Secretary of the Interior shall review and approve plans for transfer of surplus Federally owned historic properties to ensure that prehistoric, historic, architectural, and culturally significant values will be preserved or enhanced.

Section 110(f): The heads of each Federal agency shall undertake planning and actions to minimize harm to National Historic Landmarks and provide reasonable opportunity for the Advisory Council on Historic Preservation to comment on undertakings that directly and adversely effect National Historic Landmarks.

Section 110(g): Each Federal agency may include the costs of preservation activities under this Act as eligible project costs.

Section 110(h): The Secretary shall establish an annual preservation awards program for recognition of outstanding contributions to historic preservation.

Section 110(i): Nothing in this Act shall be construed to require the preparation of an environmental impact statement where one would not be required under the National Environmental Policy Act, and nothing in this Act shall be construed to provide an exemption from any requirement for the preparation of a statement under such Act.

Section 110(j): The Secretary of the Interior shall publish regulations under which requirements of this section may be waived in whole or in part.

Section 110(k): Each Federal agency shall not grant a loan, loan guarantee, permit, license, or other assistance with the intent of avoiding Section 106 requirements.

Section 110(i): In any undertaking subject to Section 106 the head of the responsible agency may not delegate his or her responsibilities pursuant to such section.

3.1.1.1.1 Maintenance and Repair of Historic Properties – Twenty six Cold War-era buildings, in a single historic district, were identified as being eligible for the National Register of Historic Places in the year 2000. A Memorandum of Understanding (MOU) was completed with the Alaska SHPO, which required that a photo recordation be completed to document the buildings in their current condition. That mitigation has been completed and now the use, rehabilitation, remodeling, or destruction of those buildings can occur without Section 106 consultation with the SHPO. Two of these buildings have since been removed.

It is possible that other buildings, as they reach 50 years of age, may be determined to be eligible for the National Register of Historic Places. Should that occur, eligible buildings not covered by the MOU will be cared for in accordance with *The Secretary of the Interior's Guidelines for Treatment of Historic Properties*. *The Secretary of the Interior's Guidelines* provides information on how to choose appropriate treatments for historic properties, use of appropriate materials, building features such as roofs and windows, and special requirements such as energy efficiency and accessibility considerations. Appropriate maintenance and

repair of the cultural landscape is important to a property's historic integrity. Guidance for the treatment of cultural landscapes may be found in "The Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for the Treatment of Cultural Landscapes."

3.1.1.1.2 Identification and Evaluation of Historic and Archaeological Properties – Section 110(a)(2) of the NHPA requires each Federal agency to establish, in consultation with the Secretary of the Interior, a program for the identification, evaluation, and nomination of historic properties to the National Register of Historic Places (NRHP). The U.S. Army had set forth its program for identification, evaluation and nomination in AR 200-4 and DA Pam 200-4.

Approximately 25% of Fort Greely's 7,000 acres has been surveyed for archaeological resources. A 100% survey has been conducted for historic structures.

***Action Item:** Fort Greely is small enough to allow a 100% coverage by archaeological survey. The Action Plan of this ICRMP calls for the CRM to initiate the development and implementation of a program for identification, evaluation, and nomination of historic properties. As a first step in the development of this program, the CRM will develop and implement a cultural resource survey plan, in consultation with the SHPO and other interested parties. Guidance for conducting surveys may be found in "Guidelines for Local Surveys: A Basis for Preservation Planning."*⁴ Surveys are further discussed in Section 3.3.2.

NRHP-eligible properties include one archaeological site (XMH-280) and a historic district in the main cantonment area that includes 24 Cold War-era buildings (described in Section 3.1.1.1.1). Several archaeological sites have been identified but not yet evaluated for eligibility. It is not expected that any historic or archaeological properties will be formally nominated for the National Register of Historic Places. AR 200-4 Section 3-2(c)(1) states that:

Formal nomination of historic properties to the Keeper of the National Register of Historic Places for listing in the National Register of Historic Places is not a high program priority. Formal nomination for listing in the National Register makes no difference in the way historic properties are managed, and diverts scarce resources away from other cultural resources management activities. The Army will formally nominate only those properties that it intends to interpret, commemorate, or otherwise actively manage as sites of popular interest that are normally open to the general public.

Implementation of a cultural resource survey plan, and systematic evaluation of sites for NRHP eligibility, will lead to the establishment of a program of identification, evaluation, and nomination. This will bring Fort Greely into compliance with Section 110(a)(2) of the NHPA and result in the development of a database of historic properties that will assist the CRM in meeting NHPA Section 106 responsibilities (discussed in Section 3.1.1.2) for Fort Greely. In addition information contained in this database can be used as baseline information for the enforcement of ARPA (discussed in Section 3.1.4).

3.1.1.1.3 Consultation with Interested Parties – Section 110(a)(2)(D) of the NHPA requires Federal agencies to carry out historic preservation activities in consultation with Federal, State, and local government agencies, Native American Tribal entities, and the public. Guidance for consultation with required parties is provided in the Section 3.3.5. The SOPs in Section 4.0 have procedures for consultation. Following these procedures will assist Fort Greely in meeting consultation responsibilities required by law, Executive Orders, and Army regulations. Interested parties are identified in Section 2.9 of this Plan.

⁴ U.S. Department of the Interior, National Park Service, Interagency Resources Division, 1985, National Register Bulletin, Guidelines for Local Surveys: A Basis for Preservation Planning (Washington, D.C.: National Park Service). This bulletin may be obtained over the Internet at <http://www.cr.nps.gov/nr>.

3.1.1.1.4 Documentation of Historic Properties – Section 110(b) of the NHPA requires Federal agencies to document historic properties adversely affected by Federal undertakings. The kind and level of documentation of historic properties varies with the kind of historic property and type of adverse effect. Consultation with the SHPO, during Section 106 consultation (see Sections 3.1.1.2 and 3.3.5.1), will assist the Federal agency in identifying the required level of documentation. Guidelines for documenting historic properties may be found in the “Secretary of the Interior’s Standards for Historical Documentation” (48 FR 44728-37).

Undertakings that may require documentation of historic properties include, but are not limited to, demolition, Base Realignment and Closure (BRAC), and renovation of existing buildings. Section 106 consultation with the SHPO will assist in identifying Federal undertakings that require documentation of historic properties.

This type documentation was completed for the 26 buildings in the historic district and was provided to the SHPO and the Anchorage Branch of the National Archives. Since a complete architectural inventory of the installation has already been completed, no near-term needs for historic buildings documentation is expected.

3.1.1.2 Section 106 of the National Historic Preservation Act – Section 110(a)(2) of the NHPA requires Federal agencies to give full consideration of the effects of Federal actions and undertakings on historic properties under their jurisdiction. Section 106 of the NHPA provides a process for this consideration to take place. Regulations governing the NHPA Section 106 review process are found in 36 CFR § 800: Protection of Historic Properties. Initiation of the NHPA Section 106 process depends upon the decision to take action, and not on the actual activity or undertaking. When a Federal agency decides to initiate an undertaking it must, simultaneously, initiate the NHPA Section 106 process. This process must be initiated in the early planning stages of the undertaking. It may be desirable to coordinate NHPA Section 106 review with other reviews, such as those required by the National Environmental Policy Act (NEPA).

The NHPA Section 106 review process cannot stop a Federal agency from initiating an undertaking; however, failure to complete the Section 106 review process prior to approval of an undertaking can result in a decision of agency foreclosure by the ACHP. This occurs when the ACHP finds that it has not been given a reasonable opportunity to comment on an undertaking. Foreclosing the ACHP’s opportunity for comment leaves the agency vulnerable to litigation by interested parties for failure to carry out its NHPA Section 106 responsibilities.

3.1.1.2.1 Steps in the NHPA Section 106 Process – The steps in the NHPA Section 106 process are: Establish Undertaking/Initiate Consultation, Identify Historic Properties, Assess Adverse Effects, and Resolve Adverse Effects. Each of these steps must be carried out in order. Compliance with Section 106 is not dependent on the completion of all four steps in the NHPA Section 106 process. The decision to proceed to the next step depends upon the outcome of the previous step. Taking steps out of order can result in unnecessary work..

- **Establish Undertaking/Initiate Consultation** is the first step in the Section 106 process. This step requires the Federal Agency Official [Garrison Commander (GC)] to determine if the project or activity is an undertaking, as defined by 36 CFR § 800.16(y) and, if so, whether it is a type of activity that has the potential to cause effects to historic properties.⁵ To determine if an

⁵ NHPA Section 106 identifies the Federal Agency Official (FAO) as the individual responsible for NHPA Section 106 compliance. In this ICRMP, the FAO is the Garrison Commander. In this ICRMP, the CRM will act on behalf of the Garrison Commander. 36 CFR 800.16(y) defines an undertaking as a project, activity, or program funded in whole or in part under the direct or indirect jurisdiction of a Federal Agency, including those carried out by or on behalf of a Federal Agency; those carried out with Federal financial assistance; those requiring a Federal permit, license, or approval; and those subject to state or local regulation administered pursuant to a delegation or approval by a Federal agency.

undertaking has the potential to cause effects to historic properties, the Garrison Commander, using the criteria of adverse effect in 36 CFR § 800.5(a)(1), must ask, if historic properties were present in the Area of Potential Effect (APE), could they be affected by the undertaking?⁶

Completion of this step may result in one of the following outcomes. If the Garrison Commander determines that the project or activity is not an undertaking as defined in 36 CFR § 800.16(y), or if an undertaking does not have the potential to cause effects on historic properties, then NHPA Section 106 responsibilities are complete and the project may proceed. If the Garrison Commander determines that the project or activity is an undertaking and that it has the potential to cause effects to historic properties, then the Garrison Commander must consult with the SHPO to identify potential consulting parties and develop a plan for public involvement. It may be desirable for the Garrison Commander to use NEPA public involvement procedures to initiate public involvement required by NHPA Section 106. After identifying consulting parties and developing a public involvement plan, the Garrison Commander must simultaneously initiate consultation and proceed to step two of NHPA Section 106.

- **Identify Historic Properties** is the second step in the NHPA Section 106 process. In this step, the Garrison Commander consults with the SHPO to clearly define the APE, and identify and evaluate all historic properties in the APE. If no historic properties are found, the Garrison Commander will notify the SHPO in writing and will provide documentation of this finding. The documentation of the finding will be made available for public inspection, prior to approving the undertaking to proceed. If historic properties are present but will not be affected by the undertaking, the Garrison Commander will notify the SHPO in writing and will provide documentation of this finding. The documentation of the finding will be made available for public inspection, prior to approving the undertaking to proceed. See Section 4.1 SOP for Compliance with Section 106 for information on documentation for no historic properties/no historic properties affected. If the SHPO (or ACHP, if it has entered consultation) concurs with the finding or does not object within 30 days, then NHPA Section 106 responsibilities are complete and the undertaking may proceed. If historic properties are found, then the process continues to step three.

Consulting the database of information that will develop out of the program of identification, evaluation, and nomination of historic properties (discussed in Section 3.1.1.1.2) will allow the CRM to more efficiently carry out this step. Methods for conducting identification and evaluation are explained in Section 3.3.2.

If human remains, funerary objects, sacred objects, and/or objects of cultural patrimony are discovered in the APE, then the Native American Graves Protection and Repatriation Act (NAGPRA) must be addressed, in addition to NHPA Section 106. Section 3.1.3 discusses NAGPRA responsibilities.

- **Assess Adverse Effects** is the third step in the NHPA Section 106 process. It requires the Garrison Commander, in consultation with the SHPO and any Indian tribe that attaches religious and cultural significance to identified historic properties, to apply the criteria of adverse effect to historic properties in the APE. The criteria of adverse effect are found in 36 CFR §

⁶ 36 CFR 800.16(d) defines the area of potential effect as the geographic area or areas within which an undertaking may cause changes in the character or use of historic properties, if any such properties exist there. The area of potential effects is influenced by the scale and nature of an undertaking and may be different for different kinds of effects caused by the undertaking. This area always includes the actual site of the undertaking, and may also include other areas where the undertaking will cause changes in land use, traffic patterns, or other aspects that could affect historic properties.

800.5(a)(1) and discussed in Section 3.3.4, "Assessing Adverse Effects," of this ICRMP. This evaluation will result in one of two determinations: No Adverse Effect or Adverse Effect.

- No Adverse Effect: If the Garrison Commander determines that an undertaking will result in No Adverse Effect to historic properties, he or she must notify all consulting parties and provide documentation specified in 36 CFR § 800.11(e) and discussed in Section 3.3.4.1.1, "Supporting Documentation for Adverse Effect/No Adverse Effect," of this ICRMP. The SHPO has 30 days to review and object or concur with the finding. If the SHPO concurs with the finding or does not object within 30 days, then NHPA Section 106 responsibilities are complete and the undertaking may proceed.
- Adverse Effect: If the Garrison Commander determines that an undertaking will result in an Adverse Effect to historic properties, then he or she proceeds to step four of NHPA Section 106.
- Disagreement with Finding: If the SHPO or any consulting party disagrees with the finding within 30 days, they must specify, in writing, the reasons for the disagreement. The Garrison Commander may consult with the party to resolve the disagreement or request the ACHP to review the finding. If the finding is submitted to the ACHP, the Garrison Commander must provide the documentation specified in 36 CFR § 800.11(e) and discussed in Section 3.3.4.1.1, "Supporting Documentation for Adverse Effect/No Adverse Effect," of this ICRMP. The ACHP shall review the finding and notify the Garrison Commander of its determination within 15 days of receipt of the documentation from the Garrison Commander. The determination will tell the Garrison Commander whether the criteria of adverse effect were applied correctly. The ACHP will specify the basis for its determination and the Garrison Commander shall proceed in accordance with the ACHP's determination. If the ACHP does not respond within 15 days of receipt of the documentation, the Garrison Commander may assume concurrence with the finding and proceed accordingly.
- **Resolve Adverse Effects** is the fourth step in the NHPA Section 106 process. In this step, the Garrison Commander consults with the SHPO and other consulting parties to develop and evaluate alternatives or modifications to the undertaking that could avoid, minimize, or mitigate adverse effects on historic properties. The Garrison Commander shall notify the ACHP of the finding of adverse effect by providing documentation specified in 36 CFR § 800.11(e) and discussed in Section 3.3.4.1.1, "Supporting Documentation for Adverse Effect/No Adverse Effect," of this ICRMP. The notice shall invite the ACHP to participate in consultation when the Garrison Commander wants the ACHP to participate, when the undertaking has an adverse effect on a National Historic Landmark, or when a Programmatic Agreement will be prepared. The SHPO or any consulting party may independently request the ACHP to participate in consultation at any time. This consultation will result in two possible outcomes: a Memorandum of Agreement (MOA) or Programmatic Agreement (PA) to avoid, minimize, or mitigate the adverse effects; or a failure to resolve adverse effects. An MOA may be executed with or without ACHP involvement.
- Execute MOA: If the Garrison Commander, the SHPO, and other consulting parties agree on how to resolve the adverse effect, they will execute an MOA. The Garrison Commander must submit a copy of the executed MOA, along with documentation specified in 36 CFR § 800.11(f), to the Council prior to approving the undertaking in order to meet NHPA Section 106 requirements. This

documentation must include any substantive revisions or additions to the documentation provided to the ACHP when initiating consultation to resolve adverse effect, an evaluation of any measures considered to avoid or minimize the undertaking's adverse effects, and a summary of the views of consulting parties and the public.

- **Consultation:** If the Garrison Commander, in consultation with the SHPO and other consulting parties, determines that a PA is the appropriate method to avoid, minimize, or mitigate adverse effects, he or she will initiate consultation with the ACHP and other consulting parties, as appropriate, pursuant to 36 CFR § 800.14(b)(2).
- **Council Participation:** If the Garrison Commander, the SHPO, and other consulting parties fail to agree on how to resolve the adverse effects, the Garrison Commander will request the ACHP to join consultation and provide the ACHP documentation specified in 36 CFR § 800.11(g). See Section 4.1 SOP for Compliance with Section 106. If the ACHP decides to join consultation, the Garrison Commander will consult with the SHPO and other consulting parties to resolve the adverse effects. If the Garrison Commander, the ACHP, the SHPO, and other consulting parties agree on how to resolve the adverse effects, they will execute an MOA. An MOA executed and implemented with ACHP participation evidences the Garrison Commander's compliance with NHPA Section 106. Upon completion of the stipulations of the MOA, the undertaking may proceed.
- **Council Does Not Participate:** If the ACHP decides not to join in consultation, the ACHP will notify the Garrison Commander and proceed to comment in accordance with 36 CFR § 800.7(c).
- **Failure to Resolve Adverse Effects.** After consulting to resolve adverse effects pursuant to 36 CFR § 800.6(b)(2), the Garrison Commander, the SHPO, or the ACHP may determine that further consultation will be unproductive and terminate consultation. Any consulting party that terminates consultation will notify the other consulting parties and provide them the reasons for terminating in writing.
 - **Agency Termination:** If the Garrison Commander terminates consultation, the head of the agency or another officer with major department-wide or agency responsibilities shall request ACHP comment pursuant to 36 CFR § 800.7(c) and notify all consulting parties of the request.
 - **SHPO Termination:** If the SHPO terminates consultation, the Garrison Commander and the ACHP may execute an MOA without the SHPO's involvement.
 - **ACHP Termination:** If the ACHP terminates consultation, the ACHP shall notify the Garrison Commander, the agency's Federal Preservation Officer, and all consulting parties and comment under 36 CFR § 800.7(c). The ACHP may consult with the Garrison Commander prior to terminating consultation in an effort to resolve issues concerning the undertaking and its effects on historic properties. The ACHP will transmit its comments to the head of the agency, the Garrison Commander, the Federal Preservation Officer, and all consulting parties within 45 days of termination. The head of the Federal agency shall take into account the ACHP's comments in reaching a final decision on the undertaking. The head of the Federal agency shall document this decision and shall not delegate his or her responsibilities pursuant to NHPA Section 106. Documentation shall include: (1) preparing a summary of the decision that contains the rationale for the decision and evidence of consideration of the ACHP's comments and providing it to the ACHP prior to approval of the undertaking; (2) providing a copy of the summary to all consulting parties; and (3) notifying the public and making the record available for public inspection.

Standard operating procedures for the NHPA Section 106 process are found in Section 4.1, "Standard Operating Procedures: Compliance with Section 106." Methods for accomplishing the tasks required for Section 106 are explained in Sections 3.3.2, 3.3.4, and 3.3.5. Activities that may result in impacts to historic properties and mitigation options are discussed in Sections 3.3.6. and 3.3.7, respectively. To ensure NHPA Section 106 compliance and avoid costly delays, the NHPA Section 106 review process should be initiated early in the planning of undertakings.

Action Item: *Initiate NHPA Section 106 review early in the planning of undertakings.*

3.1.1.2.2 Alternative Procedures – Pursuant to 36 CFR § 800.14(a), Federal agencies may, in consultation with the ACHP, develop alternative procedures to carry out the NHPA Section 106 review process. The Army has developed such a procedure and it has been approved by the ACHP. Several Army installations and Army major commands are currently in the process of adopting the Army Alternate Procedures (AAPs). The process of adopting the AAPs is costly and lengthy, and public involvement is on the same scale as producing an Environmental Impact Statement.

Because of the small number of historic properties and the relatively low number of undertakings, it is currently not cost effective for Fort Greely to adopt the AAPs.

3.1.1.2.3 Programmatic Agreements – Pursuant to 36 CFR § 800.14(b), Federal agencies may fulfill NHPA Section 106 responsibilities for a particular program, large or complex project, or class of undertakings that would require numerous individual requests for comments, through a Programmatic Agreement (PA). PAs are developed in consultation with the ACHP and the SHPO. It is the Federal agency's responsibility to initiate development of a PA. PAs are appropriate for programs and projects: (1) when effects on historic properties are similar and repetitive or are multi-state or regional in scope; (2) when effects on historic properties cannot be fully determined prior to approval; (3) when non-Federal parties are delegated major decision-making responsibilities; (4) when they involve development of regional or land management plans; or (5) when they involve routine management activities at Federal installations.

Because of the small number of historic properties and the relatively low number of undertakings, a routine management PA is not currently required at Fort Greely. Should some type of future reoccurring activity require it, Fort Greely will enter into negotiations with the SHPO to develop a PA.

3.1.1.3 Curation of Prehistoric and Historic Artifacts, and Associated Records – Section 101(a)(7) of the NHPA directs the Secretary of the Interior to establish regulations for the proper curation of artifacts subject to Section 110 and the Archaeological Resources Protection Act (ARPA). These regulations are published in 36 CFR § 79, *Curation of Federally Owned and Administered Archaeological Collections*. The regulations place responsibility for curation of artifacts with the Federal Agency Official, the Garrison Commander. Artifacts recovered from federally owned and administered lands must be curated in compliance with these regulations. Guidance for curation of artifacts may be found at 48 FR 44737, *Archaeology and Historic Preservation: Secretary of the Interior's Standards and Guidelines*.

Artifacts from pre-2003 archaeological investigations at Fort Greely were collected and curated by the U.S. Army Garrison – Alaska, the previous owner of the installation. As of May 2004, an MOA with the University of Alaska Museum for the curation of archaeological artifacts is being prepared and will go into negotiation with the museum. When that MOA is in effect, all artifacts recovered at Fort Greely will be held by the museum. The University of Alaska Museum asks for payment for use of its facilities; however, the nature of this payment is open for negotiation.

Action Item: *Complete development of an MOA for curation of artifacts discovered on Fort Greely lands.*

Section 4.5 SOP "Curation of Artifacts" provides procedures for proper curation of artifacts discovered at Fort Greely.

3.1.2 National Environmental Policy Act (NEPA)

The purpose of NEPA is to incorporate environmental considerations into Federal agency planning and action. This is accomplished by systematically providing decision-makers and other interested parties with information necessary to understand any potentially significant environmental impacts associated with agency proposals. Title 32, CFR Part 651 is the Army's NEPA regulation. Section 800.8 of Title 32, CFR Part 651, and Section 3.2 of DA Pam 200-4 suggest that, to the extent possible, the NEPA compliance should be coordinated with Section 106 consultation.

While NEPA's more detailed documentation requirements [i.e., the Environmental Assessment (EA) and Environmental Impact Statement (EIS)] will not apply to all Army actions involving cultural resources, NEPA's applicability should be considered at the beginning of project planning. The applicability of NEPA and the level of documentation necessary will be determined by considering several factors, including the following:

- The type of action proposed
- Whether the action is covered by pre-existing NEPA analysis or a published categorical exclusion (CX)
- The type and level of impacts expected, if any
- The sensitivity of the resources or issues involved.

While the NEPA process provides an avenue to facilitate compliance with other statutory and regulatory requirements (e.g., NHPA, NAGPRA, ARPA, AIRFA), its applicability must be considered independently of these other requirements. Compliance with NEPA does not satisfy these other applicable requirements, nor does compliance with other applicable requirements satisfy NEPA's mandates.

The presumption is that decision makers make better decisions when they have clear information about the consequences and tradeoffs associated with taking any given course of action. Giving decision makers this kind of information is the foundation of the NEPA process. Efficiently and effectively informing Army planners, decision makers and the public will help integrate environmental considerations into the decision-making process. Many different aspects of the environment, including cultural resources, will be analyzed in a NEPA document.

NEPA procedures must ensure that environmental information is available to public officials and citizens before decisions are made, and before actions are taken. NEPA documents must concentrate on the issues that are truly significant to the action in question, rather than amassing needless detail. The NEPA documents can be used for NHPA Section 106 consultation during the normal public review period for EAs. EISs are more detailed analyses and require public scoping meetings and public hearings. These provide excellent forums for dual compliance with Section 106 of the NHPA.

Sections that deal with cultural resources should clearly state what the proposed undertaking will be, where it will occur in relation to known historic or archaeological sites, what potential impacts to those sites there may be, and what mitigations will be performed to avoid or lessen impacts. This is normally the same data that is used in a non-NEPA consultation letter to the SHPO or other interested parties. It is important to keep in mind that a NEPA document covers many aspects of the environment and can be quite voluminous. Documents that contain large amounts of non-cultural resource data may be intimidating to the SHPO, interested parties, or Native American entities that have no interest in areas other than cultural resources.

When using the NEPA document for consultation, it is important that transmittal letters clearly state that the document and correspondence are being used for Section 106 consultation and on what pages cultural resource-specific information can be found. This will lessen the review burden for the consultation process and ensure swifter, more cogent comments.

3.1.3 Native American Graves Protection and Repatriation Act of 1990

The Native American Graves Protection and Repatriation Act (NAGPRA) of 1990 provides for the disposition of Native American human remains, funerary objects, sacred objects, and objects of cultural patrimony removed from Federal and tribal lands. NAGPRA applies to cultural items in the possession or control of Federal agencies, cultural items in the possession or control of any institution or State or local government receiving Federal funds, and to cultural items intentionally or unintentionally excavated on Federal or tribal lands.⁷ Regulations to carry out NAGPRA are found at 43 CFR Subpart A § 10, "Native American Graves Protection and Repatriation Regulations." NAGPRA establishes Native American ownership of human remains associated with Native American lands or culture, and associated funerary objects and calls for the return of cultural items to appropriate Native American organizations upon request. This Act requires consultation with Native American tribal entities with respect to the disposition of cultural items recovered from Federal and tribal lands. For specific information with respect to NAGPRA, consult the Act itself and accompanying regulations, and contact the:

Chief of Cultural Resources
U.S. National Park Service
2525 Gamble Street
Anchorage, Alaska 99503
(907) 257-2699

Fort Greely currently holds no human remains or Native American funerary objects. However, future activities could lead to the discovery of these items. The discovery of human remains, funerary artifacts, sacred objects, and objects of cultural patrimony during Section 106 review, or the inadvertent discovery of human remains, funerary artifacts, sacred objects, and objects of cultural patrimony, during an undertaking would require NAGPRA to be addressed.

Section 4.4 SOP, "Compliance with the Native American Graves Protection and Repatriation Act of 1990" outlines procedures for compliance with NAGPRA.

3.1.4 Archaeological Resources Protection Act of 1979

The Archaeological Resources Protection Act (ARPA) protects archaeological resources and sites on public and Indian lands that are 100 years of age or older. Regulations for ARPA are found in 32 CFR § 229, "Protection of Archaeological Resources: Uniform Regulations." ARPA outlines illegal activities and prescribes civil and criminal penalties for each infraction, establishes a permitting process for removal of archaeological resources from public and Indian lands, and provides for the confidentiality of archaeological site location information. Standard operating procedures for ARPA compliance can be found in Section 4.2, "Compliance with the Archaeological Resources Protection Act of 1979."

AR 200-4 requires installations to ensure that military police, installation legal staff, the PAO, and fish, game, and recreation staffs are familiar with ARPA. The CRM must coordinate with the Staff Judge Advocate (SJA) to ensure that ARPA is integrated into the missions of applicable military and nonmilitary organizations on Fort Greely.

3.1.4.1 ARPA Violations – It is not necessary for an archaeological resource to be eligible for inclusion in or be listed in the NRHP to be covered by ARPA. Criminal violations of ARPA include excavation, removal, damage, sale, purchase, trade, and transportation of archaeological resources on Federal lands. Penalties for these violations can include fines of up to \$100,000 and up to 5 years in prison. The most likely infractions are unauthorized digging at sites and the recovery and removal of archaeological remains by persons without an ARPA permit. The legal office of the responsible Federal agency initiates

⁷ NAGPRA defines "cultural items" as human remains, associated funerary objects, unassociated funerary objects, sacred objects, and objects of cultural patrimony.

criminal actions for ARPA violations through the U.S. Attorney General. The U.S. Department of Justice should be contacted when questions of legal jurisdiction arise. Criminal jurisdiction for ARPA violations is in U.S. District Court.

Pursuant to 32 CFR § 229.15, any person who violates a prohibition contained in an applicable regulation or permit issued under ARPA can be assessed a civil penalty by the Federal land manager. Penalties should take into account the archaeological and commercial value of the resources destroyed or not recovered and the full cost of restoration and repair of the resources and the archaeological site. Civil actions for ARPA violations are initiated by the U.S. Attorney General, at the request of the Federal land manager. Where the Federal land manager is not represented by the Attorney General, civil action may be initiated directly by the Federal land manager. Jurisdiction for these actions are held in U.S. District Court.

While ARPA covers a specific class of properties—archaeological resources—other property laws may apply. Law enforcement officials for Fort Greely should be aware that an ARPA violation may, in a broader sense, constitute the damage, destruction, or theft of Government property and may be treated as such. In certain circumstances, it may be desirable to prosecute ARPA violators under these laws. To prosecute an ARPA violation under ARPA, it is important that a body of baseline information be available for those prosecuting the violation in order to show the site's condition and characteristics before and after the infraction. This information can best be obtained through the body of information that grows out of the program of identification, evaluation, and nomination, required by NHPA Section 110 (discussed in Subsection 3.1.1.1.2).

3.1.4.2 Removal of Archaeological Resources from Public and Indian Lands –

Excavation and removal of archaeological resources from public and Indian lands requires a permit from the land manager. AR 200-4 directs installations to provide the U.S. Army Corps of Engineers with approval to issue ARPA permits for archaeological activities on Army lands after necessary consultation and compliance requirements have been met. ARPA stipulates four requirements that must be met before a land manager may issue a permit, as follows.

- The applicant must be qualified to carry out the permitted activity.
- The activity is undertaken for the purpose of furthering archaeological knowledge in the public interest.
- The archaeological resources that are excavated or removed from public lands will remain the property of the United States, and such resources and copies of associated archaeological records and data will be preserved by a suitable university, museum, or other scientific or educational institution.
- The activity pursuant to such permit is not inconsistent with any management plan applicable to the public lands concerned.

3.1.4.3 Confidentiality – Information regarding the nature and location of any archaeological resource that requires an ARPA permit or other permission for excavation and removal may not be made available to the public without the permission of the CRM. Information held confidential under ARPA is exempt from the Freedom of Information Act. Guidance for restricting information about historic and prehistoric sites may be found in "Guidelines for Restricting Information about Historic and Prehistoric Resources." Environmental Analyses prepared in accordance with NEPA will not reveal the locations of known archaeological sites. The NEPA documents are public documents and may mention the presence of sites if there is a potential for them to be affected by the proposed action, but will not map or describe their exact location. However, locations of sites may be mapped and described during consultation with the SHPO and ACHP. Pursuant to 32 CFR § 229.18, the Federal land manager (CRM) may release information concerning the location of any archaeological site if:

- It is determined that such disclosure would further the purposes of this ARPA or the *Archaeological and Historic Preservation Act of 1960* (16 CFR § 469-469c), and not create a risk of harm to such resources or to the site at which such resources are located, or
- The Governor of any State has submitted to the Federal land manager a written request for information concerning the archaeological resources within the requesting Governor's State, including the purpose for which the information is requested, and has provided a written commitment to adequately protect the confidentiality of the information.

Section 4.7 SOP, "Archaeological Site Disclosure," provides guidance for compliance with ARPA. Further installation responsibilities with respect to ARPA are outlined in AR 200-4.

3.2 Management Responsibilities

Previous sections review the preservation laws applicable to Fort Greely and provide analysis of their current preservation program with respect to these laws. This section looks at factors that impact Fort Greely's ability to achieve compliance with historic preservation laws.

3.2.2 Professional Cultural Resources Manager

Section 112 of NHPA requires agency personnel or contractors responsible for historic resources to meet qualifications standards established by the Office of Personnel Management in consultation with the Secretary of the Interior. These standards are the "Secretary of the Interior's Professional Qualifications Standards," defined in 36 CFR § 61. Currently, Fort Greely does not have an official CRM meeting these standards. This places Fort Greely out of compliance with Section 112 of the NHPA. The Garrison Commander needs to appoint a CRM who meets the "Secretary of the Interior's Professional Qualifications Standards" in a discipline appropriate to the installation's historic properties. Because of the limited size of the installation, and the small quantity of the identified historic properties, the Garrison Commander may choose to appoint a CRM through its Major Command, the Installation Management Agency, or from a supporting contractor. It is recommended that the CRM be an archaeologist, as most of the resources at Fort Greely are pre-historic archaeological sites.

The CRM will be a member of the Environmental Coordinator's staff (Director of Public Works). All correspondence and coordination with the CRM will be through the Environmental Coordinator's Office.

***Action Item:** Appoint a CRM that meets the "Secretary of the Interior's Professional Qualifications Standards" in a discipline appropriate to the installation's historic properties.*

3.2.3 Education

Education is a key component of a successful cultural resources management program. Section 301(8) of the NHPA defines education as an integral part of historic preservation. The CRM, military and nonmilitary personnel, and the public need to be aware of the historic resources, the laws, and their part in protecting the properties. This section discusses ways to integrate education into this ICRMP.

3.2.3.1 Education of Cultural Resources Management Staff – As the lead person in the cultural resources management program at Fort Greely, the CRM must receive ongoing training in historic preservation laws, regulations, and practices in order to attain and/or maintain an appropriate level of professional training. The National Park Service publishes "The Cultural Resource Training Directory," an annual directory of cultural resources training opportunities offered by various Federal, state, and local agencies, universities, and other organizations. This directory also directs readers to Internet web sites where information on other historic preservation courses may be obtained. Course offerings include subjects such as cultural resources management, photo-documentation, laws and regulations, and related topics. The CRM should be encouraged through available funding and supervisory support to take advantage of these training

opportunities. To ensure that the CRM attains and/or maintains an appropriate level of professional training, the CRM should establish a training plan that identifies gaps in the CRM's level of expertise and preservation courses that bridge those gaps.

Action Item: *Establish a CRM training program that identifies gaps in the CRM's level of expertise and preservation courses that bridge those gaps..*

3.2.3.2 Education of Military and Non-Military Personnel – Compliance with historic preservation laws and regulations are the ultimate responsibility of the Garrison Commander; however, this compliance cannot be achieved without the efforts of all personnel. All unit commanders of military and nonmilitary organizations on Fort Greely must be proactive in the preservation of historic properties. Basic training in cultural resources laws and regulations, basic requirements of this ICRMP, and an introduction to the history of the installation will provide them with the necessary tools to support the Garrison Commander's historic preservation goals and objectives. This instruction must be provided on an annual basis to ensure that new personnel receive training in cultural resources laws and regulations. Integrating cultural resources training with other environmental compliance training is the most efficient method of delivering this training.⁸ The CRM should develop and implement a cultural resources training program early in the implementation of this ICRMP.

Action Item: *Develop and implement a cultural resources training program early in the implementation of the ICRMP.*

3.2.3.3 Public Education – Informing the public of the rich and varied history of Fort Greely cultivates an appreciation for the historic resources on the installation, and provides the Army with an avenue for relating to the community. Public education takes many forms and is aimed at a broad spectrum of people. Museums, interpretive centers, pamphlets, guided tours, displays, and signs are all forms of public education. Establishment of a public education program must be a goal of this ICRMP. The program should provide visitors and residents with information on the history and prehistory of Fort Greely, historic preservation and on the cultural resources management program of the Forts. The Garrison Commander should initiate development of a public education program early in the implementation of the ICRMP.

The most effective means of conveying the history of Fort Greely would be the production of a brochure that will describe the archaeological and military heritage of the installation. It would also be an opportunity to explain the current mission of the post and describe Fort Greely's program for historic preservation. Fort Greely could partner with local historical societies, Native groups, and other interested parties in developing the brochure.

Action Item: *Initiate development of a Fort Greely historical background brochure.*

3.3 Standards and Methodology

Section 3.1 reviewed the current body of historic preservation laws and how they apply to Fort Greely. Section 3.2 examined internal factors that impact Fort Greely's ability to achieve compliance with historic preservation laws. This section provides guidance on how to accomplish cultural resources management activities discussed previously in Section 3.0 and carried out in the SOPs provided in Section 4.0. A brief definition of each cultural resources management activity is provided, along with applicable criteria for carrying out the activity. Each subsection references published guidelines and/or appropriate agencies for further guidance on the activity discussed.

⁸ The Directorate of Public Works at Fort Stewart, Georgia, has developed a program that integrates cultural resources training with hazardous waste/material handling and endangered species training. For more information, contact David McKivergan, Consulting Archaeologist at Bregman and Company, Incorporated, at (912) 767-3359.

3.3.1 Qualifications for Preservation Professionals

Pursuant to Section 112 of the NHPA agency personnel or contractors responsible for historic resources must meet qualifications standards established by the Office of Personnel Management in consultation with the Secretary of the Interior. These are the "Secretary of the Interior's Professional Qualifications Standards," defined in 36 CFR § 61. Cultural resources management activities discussed in this ICRMP must be conducted and/or supervised by individuals with qualifications that meet the standards for the appropriate discipline. Uncertainty about the type of professional that is required for a specific cultural resource activity should be directed to the SHPO for clarification.

3.3.1.1 Qualifications for Individuals Conducting Archaeological Activities – This ICRMP recommends that the CRM be an archaeologist to reflect the current focus of cultural resources management at Fort Greely. Cultural resources management activities involving archaeological resources, as defined by ARPA, must be supervised by a cultural resources professional with the minimum qualifications as defined in 36 CFR § 61, i.e., a masters degree in archaeology or anthropology; and (1) at least one year of full-time professional experience or equivalent specialized training in archaeological research, administration, or management, and (2) at least four months of supervised field and analytic experience in general North American archaeology; and demonstrated ability to carry research to completion.

3.3.1.2 Qualifications for the Historic Architect and Architectural Historian – For a historic architect, qualifications, as defined in 36 CFR § 61, include a professional degree in architecture or a State license to practice architecture and one of the following: (1) At least one year of graduate study in architectural preservation, American architectural history, preservation planning, or a closely related field; or (2) at least one year of full-time professional experience on historic preservation projects. This graduate study or experience will include detailed investigation of historic structures, preparation of historic structures research reports, and preparation of plans and specifications for preservation projects. For an architectural historian, qualifications include a graduate degree in architectural history, art history, historic preservation, or a closely related field and one of the following: (1) at least two years of full-time experience in research, writing, or teaching in American architectural history or restoration architecture with an academic institution, historical organization or agency, museum, or other professional institution; or (2) substantial contribution through research and publication to the body of scholarly knowledge in the field of American architectural history.

3.3.1.3 Qualifications for Individuals Conducting Historic Activities – Cultural resources management activities involving historic resources must be supervised by a cultural resources professional with minimum qualifications for a historian, historic architect, or architectural historian as defined in 36 CFR § 61. For a historian, this includes a Bachelor's degree in history or a closely related field and (1) at least two years of full-time experience in research, writing, teaching, interpretation or other demonstrable professional activity with an academic institution, historical organization or agency, museum, or other professional institution; or (2) substantial contribution through research and publication to the body of scholarly knowledge in the field of history. Qualifications for the historic architect and architectural historian are provided in Subsection 3.3.1.2.

3.3.2 Identification/Evaluation

Identification/Evaluation is the initial phase of cultural resources management. It is the second step in the NHPA Section 106 review process (discussed in Section 3.1.1.2) and a first step in a NHPA Section 110 identification/evaluation and nomination program (discussed in Section 3.1.1.1.2). It can be defined as the recordation of historic properties within a specified area by means of background research, followed by a physical survey. Identification/Evaluation, as the phrase implies, involves two simultaneous steps. The first is the discovery and recordation of the property. Guidance for identification is found in the "Secretary of the Interior's Standards for Identification" and in "Guidelines for Local Surveys: A Basis for Preservation

Planning,” and discussed in Sections 3.3.2.1 through 3.3.2.4.⁹ The second step involves measuring the property against a set of criteria to determine if it is a historic property as defined by the NHPA and the “Secretary of the Interior’s Standards for Evaluation,” discussed in Section 3.3.2.4.

3.3.2.1 Background Research – Archival or background research occurs during the planning stage of a survey. During this stage, information on the history and/or prehistory of the survey area is gathered and organized. The focus of the survey, on archaeological or historical properties, guides the research. The research tells the surveyor what kinds of historic properties have been found and where. Knowing this allows the surveyor to predict where and what kinds of historic properties will occur. Identifying areas where historic properties are assists in determining what areas have a high probability for other historic properties. For example, a review of past archaeological survey reports for Fort Greely reveals that moraines, ridgelines and other high places have a high probability of having archaeological sites. All of the archaeological sites discovered on Fort Greely to date have been discovered in this geographic setting. A survey planner can assume that such areas should be more intensively surveyed. The following information might be helpful when conducting background research for surveys on Fort Greely:

3.3.2.2 Survey – In general, there are two types of surveys: the reconnaissance survey and the intensive survey. The reconnaissance survey is a light inspection aimed at developing a general overview of an area’s resources. This may be accomplished through a “windshield survey” or “pedestrian survey,” depending on the survey area and the objectives of the survey. The primary reason for a reconnaissance survey is to support background research in preparation for an intensive survey. A reconnaissance survey should document the following information:

- The kinds of properties looked for
- The boundaries of the area surveyed
- The method of survey and extent of survey coverage
- The kinds of historic properties present in the surveyed area
- Specified properties that were identified, and the categories of information collected
- Places examined that did not contain historic properties.

The objective of an intensive survey is to identify completely and precisely all properties in a specified area based on a specific research design, discussed in Section 3.3.2.3. This type of survey involves background research and a thorough inspection and documentation of all historic properties in an area. It should provide an inventory and necessary information to evaluate properties for the NRHP. Methods for conducting historic and archaeological surveys differ. Standards and guidelines for each may be found in “The Secretary of the Interior’s Standards for Identification” and in “Guidelines for Local Surveys: A Basis for Preservation Planning.” An intensive survey should document the following information:

- The kinds of properties looked for
- The boundaries of the area surveyed
- The method of survey and extent of survey coverage
- A record of the precise location of all properties identified
- Information on the appearance, significance, integrity, and boundaries of each property sufficient to permit an evaluation of its significance.

The SHPO requires that Alaska Heritage Resource Survey (AHRS) site forms be completed and turned in for each site found. The AHRS is a database of all known historic and archaeological sites in Alaska, regardless of NRHP eligibility. The SHPO requires that site locations be reported using the legal

⁹ U.S. Department of the Interior, National Park Service, Interagency Resources Division, Guidelines for Local Surveys: A Basis for Preservation Planning (Washington, D.C.: National Park Service, 1985). This bulletin may be obtained over the Internet at www.cr.nps.gov/nr.

description (e.g., SWSWNE, Sec.10, T3, S, R96W, Seward Meridian). Questions regarding the AHRS may be directed to:

Alaska Heritage Resource Survey
Alaska Office of History & Archaeology
550 W 7th Avenue, Suite 1310
Anchorage, AK 99501-3561
(907) 269-8718 Email: oha@alaska.net

3.3.2.3 Research Design – A research design is a plan for conducting a survey or documentation of a specified area or property to achieve a certain preservation objective. It proposes questions to be answered, defines the scope and goals of the survey or documentation, the methods and techniques to be used in answering the questions and achieving the goals, the types of professionals needed, and a time schedule for completing the survey or documentation. The research design ensures that the method or methods selected are right for the preservation activity. These include reconnaissance and intensive survey, historic documentation, architectural and engineering documentation, and archaeological documentation. Guidelines for developing a research design are found in the "Secretary of the Interior's Standards for Identification" and in "Guidelines for Local Surveys: A Basis for Preservation Planning."

3.3.2.5 Criteria for Evaluation – The "Secretary of the Interior's Standards for Evaluation" are used to determine if properties identified through Section 106 and Section 110 surveys are historic properties as defined by the NHPA. Guidelines for applying these criteria may be found in "How to Apply National Register Criteria for Evaluation."¹⁰ Properties meeting the criteria are considered eligible for inclusion in the NRHP. Only those properties determined eligible for inclusion in the NRHP are subject to this ICRMP. All properties on Fort Greely meeting or found to meet these criteria must be managed as historic properties. The criteria below have been developed by the Secretary of the Interior for evaluating properties for NRHP eligibility and must be used, in consultation with the SHPO, when evaluating such properties.

Criteria: The quality of significance in American history, architecture, archaeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and:

- that are associated with events that have made a significant contribution to the broad patterns of our history; or
- that are associated with the lives of persons in our past; or
- that embody the distinctive characteristics of a type, period, or method of construction or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
- that have yielded, or may be likely to yield, information important in prehistory and history.

For archaeological resources, the last criterion will be the most common criteria which would determine eligibility.

Criteria considerations: Ordinarily, structures that have been moved from their original locations, reconstructed historic buildings, and properties that have achieved significance within the last 50 years are not considered eligible for the National Register. However, such properties do qualify if they are an integral part of districts that do meet the criteria or if they fall in one of the following categories:

- a religious property deriving primary significance from architectural or artistic distinction or historical importance; or

¹⁰ U.S. Department of the Interior, National Park Service, Interagency Resources Division, How to Apply National Register Criteria for Evaluation (Washington, D.C.: National Park Service, 1985). This bulletin may be obtained over the Internet at www.cr.nps.gov/nr.

- a building or structure removed from its original location but which is significant primarily for architectural value, or which is the surviving structure most importantly associated with a historic person or event; or
- a birthplace or grave of a historical figure of outstanding importance if there is no other appropriate site or building directly associated with his or her productive life; or
- a cemetery which derives significance from graves of persons of transcendent importance, from age, from distinctive design features, or from association with historic events; or
- a reconstructed building when accurately executed in a suitable environment and presented in a dignified manner as part of a restoration master plan, and when no other building or structure with the same association has survived; or
- a property primarily commemorative in intent if design, age, tradition, or symbolic value has invested it with its own historical significance; or
- a property achieving significance within the past 50 years if it is of exceptional importance.

Completing identification and evaluation as the first step in the NHPA Section 106 review process will tell the CRM if it is necessary to move on to Determination of Effect, the second step in the NHPA Section 106 process. Guidance for carrying out Determination of Effect is provided in Section 3.3.4.

3.3.3 Nominating a Historic Property to the National Register of Historic Places

The NRHP, administered by the NPS, is a Federal record of districts, sites, buildings, structures, and objects significant in American history, architecture, archaeology, engineering, and culture. Nomination is the process, stipulated in 36 CFR § 60, for listing a historic property in the NRHP. After a property has been evaluated, using the "Secretary of the Interior's Standards for Evaluation," discussed in Section 3.3.2.4, and determined eligible for inclusion in the NRHP, it may be nominated.

It is not expected that any historic or archaeological properties will be formally nominated for the National Register of Historic Places at Fort Greely. AR 200-4 Section 3-2(c)(1) states that:

Formal nomination of historic properties to the Keeper of the National Register of Historic Places for listing in the National Register of Historic Places is not a high program priority. Formal nomination for listing in the National Register makes no difference in the way historic properties are managed, and diverts scarce resources away from other cultural resources management activities. The Army will formally nominate only those properties that it intends to interpret, commemorate, or otherwise actively manage as sites of popular interest that are normally open to the general public.

The high security that is incumbent on Fort Greely because of its current mission will preclude public visitation to the installation. Also, there are no plans to interpret or commemorate any of the National Register-eligible properties at Fort Greely.

3.3.4 Assessing Adverse Effect

Assessing Adverse Effect, carried out in consultation with the SHPO and other consulting parties, is the process for determining if an undertaking will have an impact on historic properties in its area of potential effect.¹¹ Assessing Adverse Effect is accomplished by applying the Criteria of Adverse Effect, discussed in Section 3.3.4.1, to historic properties in the area of potential effect (APE).

¹¹ An undertaking is defined in 36 CFR 800 as any project or activity under the direct or indirect jurisdiction of a Federal agency, including those carried out by or on behalf of the agency; those carried out with Federal financial assistance; those requiring a Federal permit, license, or approval; and those subject to State or local regulation administered pursuant to a delegation or approval by a Federal agency. An area of potential effect is defined in 36

3.3.4.1 Criteria of Adverse Effect – NHPA Section 106 and 36 CFR § 800 outline standards for determining the effect of an undertaking. The Criteria of Adverse Effect defined as follows:

36 CFR § 800.5(1): An adverse effect is found when an undertaking may alter, directly or indirectly, any of the characteristics of a historic property that qualify the property for inclusion in the National Register in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association.

Consideration shall be given to all qualifying characteristics of a historic property, including those that may have been identified subsequent to the original evaluation of the property's eligibility for the National Register. Adverse effects may include reasonably foreseeable effects caused by the undertaking that may occur later in time, be farther removed in distance or be cumulative.

36 CFR § 800.5(2): Adverse effects on historic properties include, but are not limited to:

- Physical destruction of or damage to all or part of the property
- Alteration of a property, including restoration, rehabilitation, repair, maintenance, stabilization, hazardous material remediation, and provision of handicapped access, that is not consistent with the Secretary's Standards for the Treatment of Historic Properties (36 CFR § 68) and applicable guidelines
- Removal of property from its historic location
- Change of the character of the property's use or physical features within the property's setting that contribute to its historic significance
- Introduction of visual, atmospheric, or audible elements that diminish the integrity of the property's significant historic features
- Neglect of a property which causes its deterioration, except where such neglect and deterioration are recognized qualities of a property of religious and cultural significance to an Indian tribe or Native Hawaiian organization
- Transfer, lease, or sale of property out of Federal ownership or control without adequate and legally enforceable restrictions or conditions to ensure long-term preservation of the property's historic significance.

Application of the criteria above will result in one of two findings: No Adverse Effect or Adverse Effect on historic properties. If the undertaking will have No Adverse Effect on historic properties, the CRM must notify all consulting parties of the finding and provide them with documentation specified in 36 CFR § 800.11(e). See Section 3.3.4.1.1 for information on supporting documentation for No Adverse Effect. If the undertaking will have an Adverse Effect on historic properties, continue consultation pursuant to 36 CFR § 800.6 to avoid, minimize, or mitigate the adverse effect. See Section 3.3.4.1.1 for information on supporting documentation for Adverse Effect.

3.3.4.1.1 Supporting Documentation for Adverse Effect/No Adverse Effect –

Documentation requirements for Adverse Effect/No Adverse Effect are found in 36 CFR § 800.11(e). The purpose of the documentation is to provide sufficient information to explain how the CRM reached the finding and show sufficient involvement of the SHPO and consulting parties. The following documentation is required:

- A description of the undertaking, specifying Federal involvement, and its area of potential effects, including photographs, maps, and drawings, as necessary
- A description of steps taken to identify historic properties

CPR 800 as the geographic area or areas within which an undertaking may cause changes in the character or use of historic properties, if such properties exist.

- A description of the affected historic properties, including information on the characteristics that qualify them for the National Register
- A description of the undertaking's effects on historic properties
- An explanation of why the criteria of adverse effect were found applicable or inapplicable, including any conditions or future actions to avoid, minimize or mitigate adverse effects
- Copies of summaries of any views provided by consulting parties and the public.

Consultation with the SHPO and other consulting parties is required throughout the NHPA Section 106 process. Documenting the views of the SHPO and others will become important in the event that the SHPO, the consulting parties, and the agency are unable to reach agreement in the application of the Criteria of Adverse Effect or if they cannot reach agreement on resolving adverse effects. If this occurs, the agency must request that the ACHP participate in consultation. Supporting documentation for ACHP involvement must include the views of the SHPO in addition to the other entities listed in the last documentation requirement bullet, above.

3.3.5 Consultation

Consultation is an integral part of historic preservation law. The NHPA, the Native American Graves Protection and Repatriation Act (NAGPRA), the Archaeological Resources Protection Act (ARPA), and other preservation laws require it. Procedures for consultation are integrated into the SOPs of this ICRMP. The CRM or Garrison Commander initiates consultation. This consultation will involve different agencies and interested parties, depending on the law being addressed and the nature of the historic properties involved.

3.3.5.1 NHPA Section 106 Consultation – NHPA Section 106 consultation includes the SHPO and interested parties. Undertakings involving historic properties of Native American concern must include the Tanana Chiefs Conference (TCC) and other interested Tribal entities (see Table 2-2 for a list of interested tribal entities). Undertakings involving historic properties of Native American concerns, would be an action that has the potential to adversely impact a National Register-eligible archaeological site. DA Pam 200-4, Section IV, *Native American Consultation Process*, should be used as guide. In many situations, an undertaking will trigger both NHPA Section 106 and NEPA compliance. In that situation, Section 106 can be coordinated with the public hearings and public comment process for NEPA (see Section 3.1.2).

ACHP involvement in the NHPA Section 106 process is generally as an administrator of the process; however, any of the consulting parties may request ACHP involvement in the process at any time. In addition, the ACHP may decide to enter the process on its own initiative. A decision to become actively involved in the Section 106 process is guided by the Criteria for ACHP Involvement in Reviewing Individual Section 106 Cases found in 36 CFR 800, Appendix A, and discussed in Section 3.3.5.1.2

Consultation during the "Initiate Section 106 Process/Establish Undertaking," "Identify Historic Properties," and "Assess Adverse Effects of the NHPA" steps of the Section 106 process is generally between the agency and the SHPO. The purpose of this consultation is to obtain guidance and ensure appropriate application of the "Secretary of the Interior's Standards and Guidelines" and the Criteria of Adverse Effect. During the "Initiate Section 106 Process/Establish Undertaking," the CRM must, after establishing the undertaking, initiate consultation with the SHPO to identify potential consulting parties and develop a public involvement plan. In the "Identify Historic Properties" step, the CRM must seek concurrence of the SHPO and others with respect to the design, accuracy, and adequacy of the survey, and to ensure correct application of the Criteria for Evaluation. During the "Assess Adverse Effects" step, the CRM must seek concurrence of the SHPO with respect to the finding of an undertaking's Adverse Effect or No Adverse Effect on historic properties. Once the CRM has submitted a determination of Adverse Effect/No Adverse Effect to the SHPO

for concurrence, the SHPO generally must respond within 30 days. All undertakings must be assessed for their Adverse Effects on historic properties and should be planned with consideration of this review period. Disagreement between the SHPO and the CRM over the application of the Criteria of Adverse Effect can lead to ACHP participation in the process. The SHPO, other consulting parties, or the CRM may request ACHP participation at any time during the process.

Consultation during the "Resolve Adverse Effect" of the NHPA Section 106 process generally involves the agency, the SHPO, and interested parties. The purpose of this consultation is to develop an MOA or PA aimed at avoiding, reducing, minimizing, or mitigating the effects of an undertaking on historic properties. The CRM must seek concurrence of the SHPO on all proposed mitigation plans, and provide the ACHP an opportunity to review the plan, if they do not participate in consultation. Section 3.3.7 provides information on actions that may be taken to mitigate adverse effects to historic properties. The ACHP must be notified by the CRM when consultation for this purpose is initiated.

In resolving adverse effect, the ACHP must be provided a reasonable opportunity to comment on the completed MOA. This comment period is 30 days from receipt of the MOA. The ACHP will always be a participant in the development of a PA, and therefore be a signatory. If the ACHP participates in the development and execution of a MOA, their signature on the document evidences agency compliance with the NHPA Section 106 process.

3.3.5.1.1 Consultation for Post-Review Discoveries – After the completion of the Section 106 process, there is always the possibility of inadvertent discoveries of cultural resources. In this situation, the CRM shall make reasonable efforts to avoid, minimize, or mitigate and:

- If an undertaking has not commenced, then the CRM shall consult to resolve adverse effects pursuant to 36 CFR 800.6; or
- If the CRM, the SHPO, and any Indian tribe that might attach religious or cultural significance to the affected property agree that the property is of value solely for its scientific, prehistoric, historic, or archaeological data, then the CRM may comply with the AHPA instead of procedures in this part and provide the ACHP, the SHPO, and the Indian tribe(s) with a report on the actions within a reasonable time after they are completed; or
- If the undertaking has been approved and construction has begun, the CRM must determine what actions can be taken to resolve adverse effects and notify the SHPO, any Indian tribe that might attach religious or cultural significance to the affected property, and the ACHP within 48 hours. The notification shall describe the actions proposed by the CRM to resolve the adverse effects. The SHPO, Indian tribe(s), and ACHP shall respond within 48 hours and the CRM shall take into account their recommendations and carry out the appropriate actions. The CRM shall provide the SHPO, Indian tribe(s), and the ACHP with a report of the actions when completed.

3.3.5.1.2 Criteria for ACHP Involvement in Reviewing Individual Section 106 Cases – While the ACHP must be kept informed throughout the NHPA Section 106 process, ACHP involvement in the NHPA Section 106 process is generally as an administrator of the process. Technical support and oversight of the Section 106 process are the primary roles of the ACHP. A decision by the ACHP to become actively involved in Section 106 is guided by a set of criteria found in 36 CFR 800, Appendix A. The specific criteria under which the ACHP is likely to enter the Section 106 process are when an undertaking

- has substantial impacts on important historic properties;
- presents important questions of policy or interpretation;
- has the potential for presenting procedural problems; or

- presents issues of concern to Indian tribes or Native Hawaiian organizations.

The ACHP may choose not to enter the Section 106 process even if one or more of these criteria have been met.

3.3.5.1.3 Overlapping Section 106 and NAGPRA Consultation Responsibilities – If human remains, funerary objects, sacred objects or objects of cultural patrimony are determined to be in the APE during a Section 106 undertaking, consultation under NAGPRA must be addressed in addition to Section 106 consultation. Section 106 requires the Federal agency to identify and evaluate all historic properties in the APE. Potential impacts to those properties determined eligible for the NRHP must be avoided, minimized, or mitigated. Under NAGPRA, a plan of action must be prepared to address how human remains, funerary objects, sacred objects, and/or objects of cultural patrimony will be managed. No known sites on Fort Greely include resources covered by NAGPRA. Consultation under NAGPRA would most likely be initiated if human remains, funerary objects, sacred objects, and/or objects of cultural patrimony are discovered inadvertently during an undertaking or as a result of an archaeological survey. It is possible that Section 106 and NAGPRA consultation requirements will overlap during Section 106.

3.3.5.2 NAGPRA Consultation – NAGPRA consultation must include the Garrison Commander, Indian tribe officials, and lineal descendants.¹² The CRM will coordinate NAGPRA consultation on behalf of the Garrison Commander. The National Park Service may be requested to arbitrate but does not usually participate in consultation. The TCC, pursuant to Public Law 93-638, carries out the realty functions of the BIA in the Fairbanks region and may facilitate consultation with Indian tribes in matters concerning them. TCC has identified seven tribal entities that have a historical link to the Fort Greely area. The CRM must contact each Indian tribe official to ascertain if they or the TCC will represent the Indian tribe in matters pertaining to NAGPRA. A list of village councils that form the TCC tribal compact is provided in Section 2.9.3. Newspapers and other forms of mass communication must be used to reasonably ensure that all interested parties are notified, and have the opportunity to participate in consultation. The purpose of consultation under NAGPRA is to develop a plan of action for the treatment of human remains, funerary objects, sacred objects, or objects of cultural patrimony intentionally excavated following the requirements of ARPA or accidentally discovered during a Federal undertaking. As in the NHPA Section 106 process, it is the agency's responsibility to initiate NAGPRA consultation.

If the CRM determines that a planned activity or undertaking may result in the excavation of human remains, funerary objects, sacred objects, or objects of cultural patrimony, consultation with Tribal entities and lineal descendants must be initiated to determine the treatment, control, and disposition of such items.

Consultation must take place before any excavation is initiated. Consultation will be carried out as discussed in Section 3.3.5.2.1. If human remains, funerary objects, sacred objects, or objects of cultural patrimony are to be excavated, an ARPA permit must be obtained prior to excavation. Proof of consultation is required before an ARPA permit can be issued. Notification that intentional excavation may be necessary must be initiated in writing and followed up by telephone if there is no response within 15 days. This notification must describe the planned activity, its general location, the basis upon which it was determined that human remains, funerary objects, sacred objects or objects of cultural patrimony may be excavated, and the basis for determining the custody. The notice must also propose a time and place for meetings or consultations to

¹² Indian tribe official is defined by NAGPRA as the principal leader of an Indian tribe or Native Hawaiian organization or individual officially designated by the governing body of an Indian tribe or Native Hawaiian organization or as otherwise provided by tribal code, policy, or established procedure as responsible for matters relating to NAGPRA; NAGPRA defines Indian tribe as any tribe, band, nation, or other organized Indian group, including any Alaska Native village or corporation as defined in or established by the Alaska Native Claims Settlement Act, which is recognized as eligible for the special programs and services provided by the United States to Indians because of their special status as Indians. A current list of Federally recognized tribes is maintained by the Bureau of Indian Affairs.

further consider the activity, the Federal agency's proposed treatment of any cultural items that may be excavated, and the proposed disposition of such items. This consultation will result in the development of a plan of action for addressing the requirements discussed in Section 3.3.5.2.2.

In the event of an inadvertent discovery of human remains, funerary objects, sacred objects, or objects of cultural patrimony, NAGPRA requires that all activity in the area of the discovery stop immediately. The CRM will notify affiliated Indian tribes and lineal descendants by telephone, followed by written confirmation within 3 days of notification of the discovery. This notification will include information on the kinds of human remains, funerary objects, sacred objects, or objects of cultural patrimony discovered, their condition, and the circumstances of their discovery. Consultation will be carried out as discussed in Section 3.3.5.2.1. The CRM will consult with affiliated Indian tribes and lineal descendants to develop a plan of action for addressing the requirements discussed in Section 3.3.5.2.1. Activity cannot resume until a plan has been developed and executed as addressed in 3.3.5.2.2.

3.3.5.2.1 NAGPRA Consultation Requirements – NAGPRA Consultation is outlined in 43 CFR § 10.5(b) and must occur as follows.

- The CRM must take appropriate steps (e.g., contact BIA, TCC, and the NPS) to identify lineal descendants and Indian tribes entitled to custody of the human remains, funerary objects, sacred objects, or objects of cultural patrimony.
- The CRM must provide written notification to lineal descendants and Indian tribes. This notification must detail the notification requirements for intentional excavation or inadvertent discovery, depending upon the circumstances of the notification.
- During consultation, the CRM must provide a list of all lineal descendants and Indian tribes that are being, or have been, consulted regarding the particular human remains, funerary objects, sacred objects, or objects of cultural patrimony, and express a willingness to provide additional information upon request.
- During consultations, the CRM must, as appropriate, request the name and address of the Indian tribe official to act as representative during consultations, names and appropriate methods to contact lineal descendants who should be contacted to participate in consultations, recommendations on how the consultation process should be conducted, and kinds of cultural items that the Indian tribe considers likely to be unassociated funerary objects, sacred objects, or objects of cultural patrimony.

43 CFR § 10.5(f) directs Federal agencies, whenever possible, to enter into Comprehensive Agreements (CAs) with Indian Tribes that are affiliated with specific human remains, funerary objects, sacred objects, or objects of cultural patrimony and have claimed or are likely to claim, those human remains, funerary objects, sacred objects, or objects of cultural patrimony intentionally excavated or inadvertently discovered on Federal lands. A CA should address all Federal agency land management activities that could result in the intentional or inadvertent discovery of human remains, funerary objects, sacred objects, or objects of cultural patrimony. It should establish a process for effectively carrying out the requirements of NAGPRA consultation procedures, determining custody consistent with procedures in 43 CFR § 10.6, and deciding the treatment and disposition of human remains, funerary objects, sacred objects, or objects of cultural patrimony. The value of a CA is that it essentially establishes a set of NAGPRA SOPs and identifies interested parties and responsible parties in advance of such an occurrence. In the absence of a CA, Federal agencies must follow consultation procedures outlined in 43 CFR § 10.5(b) and develop a written plan of action as outlined in 43 CFR § 10.5(e).

3.3.5.2.2 NAGPRA Plan of Action – Following consultation, the CRM will prepare a written plan of action. Requirements that must be addressed in a NAGPRA plan of action are outlined in 43 CFR § 10.5(e) and are discussed below. At a minimum, the plan of action must document the following:

- The kinds of objects to be considered as cultural items, as defined in section 10.2 of NAGPRA
- The specific information used to determine custody pursuant to section 10.6 of NAGPRA
- The planned treatment, care, and handling of human remains, funerary objects, sacred objects, or objects of cultural patrimony recovered
- The planned archaeological recording of the human remains, funerary objects, sacred objects, or objects of cultural patrimony recovered
- The kinds of analysis planned for each kind of object
- Any steps to be followed to contact Indian tribe officials at the time of intentional excavation or inadvertent discovery of specific human remains, funerary objects, sacred objects, or objects of cultural patrimony
- The kind of traditional treatment, if any, to be afforded the human remains, funerary objects, sacred objects, or objects of cultural patrimony by members of the Indian tribe
- The nature of the reports to be prepared
- The planned disposition of human remains, funerary objects, sacred objects, or objects of cultural patrimony following section 10.6 of NAGPRA.

Questions regarding NAGPRA should be addressed to the Chief of Cultural Resources at the NPS. The Chief of Cultural Resources may be contacted at the address below.

U.S. National Park Service
2525 Gamble Street
Anchorage, AK 99503
(907) 257-2699

3.3.5.3 ARPA Consultation – Consultation carried out under ARPA generally occurs when the objects to be recovered are cultural items as defined by NAGPRA. In this case, consultation procedures outlined under NAGPRA, discussed in Section 3.3.5.2 above, must be carried out prior to the issuance of an ARPA permit. Proof of such consultation must be provided to the responsible Federal agency official. Procedures for carrying out consultation under ARPA are provided in Section 4.2 SOP, “Compliance with the Archaeological Resources Protection Act of 1979.”

3.3.5.4 Consultation and Coordination with Indian Tribal Governments – On November 6, 2000, the President issued Executive Order 13175, Consultation and Coordination with Indian Tribal Governments. The Executive Order directs consultation between the Executive Branch of the government, including the Department of Defense, and Federally recognized Indian tribes to be conducted on a government-to-government basis.¹³ The Garrison Commander is responsible for carrying out consultation with Indian tribes. The Garrison Commander’s responsibilities under this Executive Order are integrated into the SOPs in Section 4.0. Pursuant to Public Law 93-638, the TCC carries out the realty functions of the Bureau of Indian Affairs (BIA) in the Fairbanks region and may facilitate consultation with Indian tribes in matters concerning them. This includes cultural resources. The CRM must contact each Indian tribe official to ascertain if they or the TCC will represent the Indian tribe in cultural resources issues. A list of village councils that the TCC has identified as having a historic relation to the Fort Greely area can be found in Table 2-2.

¹³ Executive Order 13084 defines Indian tribe as an Indian or Alaska Native tribe, band, nation, pueblo, village, or community that the Secretary of the Interior acknowledges to exist as an Indian tribe pursuant to the Federally Recognized Indian Tribe List of 1994.

Actions involving historic properties of Native American concern must include consultation with the TCC and seven Tribal entities that have a traditional or historic tie to the Fort Greely area. Undertakings involving historic properties of Native American concerns would be an action that has the potential to adversely impact a National Register-eligible archaeological site. DA Pam 200-4, Section IV, *Native American Consultation Process* should be used as guide.

3.3.6 Impacts to Cultural Resources

Proposed undertakings on Fort Greely are reviewed by the CRM for NHPA Section 106 compliance. Determinations of effect are made in conjunction with review procedures for NEPA compliance. This section looks at some of the more common activities carried out on Fort Greely that have potential to impact historic properties. An awareness of the effects of these types of activities on historic properties will help the CRM and others avoid or minimize impacts to these resources.

3.3.6.1 Activities Likely to Affect Archaeological Sites

- **Clearing and Excavation:** Clearing and excavation for utility lines, road construction, and fencing have the greatest potential to disturb subsurface archaeological deposits. Hydro-axing also has the potential to cause subsurface disturbance. All of these activities require coordination with the CRM.

Excavation and ground-disturbing activities associated with military training activities can damage or destroy archaeological sites. Common training activities requiring excavation and ground disturbance may include but are not limited to trenches, foxholes, bivouacs, and tank traps. These types of ground disturbances were common at Fort Greely in the past when Army maneuver units trained frequently at Fort Greely. However, with Fort Greely's new mission of missile defense, these types of disturbances will be rare.
- **Off-Road Maneuver:** Various types of off-road vehicles, both military and civilian, are used at Fort Greely. These include light tracked vehicles, trucks, and small four-wheel-drive vehicles. Off-road activity by vehicles in winter has a low potential for impacting archaeological resources. Activities by these vehicles in summer have increased potential to damage or destroy archaeological resources. Vehicle use off of established trails and roads should be avoided. Such activities must be coordinated with the CRM.
- **Landscaping:** Activities such as the removal or planting of trees and vegetation can disturb archaeological sites. Heavy equipment sometimes used in these activities may also have an adverse effect on archaeological sites. These activities must be coordinated with the CRM.
- **Construction:** Mission requirements of Fort Greely may make construction of new facilities necessary. The excavations for building foundations and utilities can disturb or destroy archaeological sites. Plans for new construction on Fort Greely must be reviewed by the CRM for Section 106 compliance.
- **Vandalism:** Vandalism to historic properties can cause the loss of historic integrity. Vandalism of sites on Federal land is a violation of the ARPA of 1979 and will be criminally prosecuted.

3.3.7 Mitigation Option for Archaeological Resources

This section discusses several options to mitigate adverse effects to cultural resources. A decision to mitigate would be documented in the Section 106 process in the form of an MOA. This section is not

comprehensive and these measures should not be undertaken without appropriate consultation with the SHPO and interested parties.

Preservation and mitigation are the two general options for archaeological sites that will be impacted by proposed undertakings. Preservation may be accomplished through avoidance or active physical protection. Mitigation involves data recovery, documentation, analysis, and reporting prior to site destruction.

Avoidance is the most desirable preservation option for archaeological sites. This is most easily accomplished during the early planning stages of a project. When done early in the planning stages, the locating of pipes, power line right of ways, and other projects can avoid significant resources without causing project delays.

Protection of an archaeological site threatened by an undertaking is often possible. Protection may be accomplished by erecting barriers, markers, signs, or fencing. Combined with verbal instruction and special contractual obligation, physical obstructions are usually sufficient to protect sites from inadvertent damage. Erecting physical barriers and signs has the disadvantage of alerting the public to these resources. If barriers are erected, periodic monitoring should be required. If it is suspected that physical protection is not effective, other measures may have to be considered. When a large site or large number of sites are involved, it may not be possible to protect the site or sites in their entirety. The area chosen for protection must be representative of the site or a definable area upon which the site's significance rests. Given these conditions, a portion of the site may be placed off limits.

Data Recovery should be the last resort. When a site, or part of a site, cannot be avoided or protected, it should be excavated, documented, analyzed, and reported. Requirements for documentation are set forth in the: "Secretary of the Interior's Standards and Guidelines: Archaeology and Historic Preservation." When required, data recovery must be conducted by a professional archaeologist who meets the academic qualifications outlined in 36 CFR § 61. The ARPA details the following three additional criteria for excavation.

- Data recovery must seek to further archaeological knowledge in the public interest.
- Artifacts that are excavated. will remain the property of the United States, and such artifacts and copies of associated documentation will receive curation at an adequate facility, discussed in Section 3.1.1.3, Curation of Prehistoric and Historic Artifacts, and Associated Records and Section 4.5 SOP, "Curation of Artifacts."
- Activities associated with excavation must be consistent with any other management plans applicable to the area concerned.

NOTES

4.0 Standard Operating Procedures

This section provides Standard Operating Procedures (SOPs) for activities that have the potential to impact historic properties on Fort Greely. It is the Garrison Commander's responsibility to ensure that activities on Fort Greely are in compliance with the laws and regulations that govern the management of historic properties and this Integrated Cultural Resources Management Plan (ICRMP). By following these SOPs, the Garrison Commander will be in compliance with Federal laws addressing historic preservation. The CRM) acting on behalf of the Garrison Commander, is the party responsible for the coordination of these activities in accordance with the SOPs. It is the responsibility of the entity that is initiating the activity to ensure that planning for the activity addresses these SOPs and to work with the CRM early in the planning process.

NOTES

4.1 SOP: Compliance with Section 106

Section 106 of the National Historic Preservation Act (NHPA) is a Federal review process designed to ensure that historic properties are considered during the planning and execution of Federal undertakings.¹ Regulations governing the Section 106 process are found at 36 CFR § 800, *Protection of Historic Properties*. This process will be initiated early in the planning stages of an undertaking. The following subsections outline the steps to ensure compliance with this Act.

4.1.1 Who is Responsible for Section 106?

Meeting the requirements of Section 106 of the NHPA is the responsibility of the Garrison Commander. The Garrison Commander will designate a Cultural Resource Manager (CRM) to administer this ICRMP and establish a process that requires installation staff, tenants, and interested parties to coordinate with the CRM early in the planning of projects and activities to ensure compliance with Section 106. The CRM will coordinate with appropriate personnel to facilitate proper consideration of historic resources during the planning and execution of Federal undertakings on Fort Greely. For information on historic properties in a project area, contact the Cultural Resource Manager, Office of the Environmental Coordinator at: 907-873-1215 or 907-873-4665.

4.1.2 Who Participates in the Section 106 Process?

It is the responsibility of the party initiating an undertaking to contact the Environmental Coordinator's Office early in planning to ensure compliance with Section 106. Once an undertaking is identified, primary participants in the Section 106 process are:

- Fort Greely CRM
- Alaska State Historic Preservation Officer (SHPO)
- Advisory Council on Historic Preservation (ACHP).²

Depending on the undertaking, other participants as consulting parties might include:

- Local governments
 - Delta Junction
- Alaska Native organizations³
 - Tanana Chiefs Conference
 - Tribes
- Local preservation groups
 - Delta Historical Society.

4.1.3 Procedures for Non-CRM Personnel

The non-CRM personnel affected by this SOP are those responsible for:

¹ Section 3.1.2, Section 106 of the National Historic Preservation Act provides information on the Section 106 process.

² ACHP involvement in the Section 106 process is generally as an administrator of the process. Technical support, conflict resolution, and oversight of the Section 106 process are the primary roles of the ACHP in the Section 106 process. Section 3.3.5.1, NHPA Section 106, Consultation, provides further discussion on ACHP involvement in the Section 106 process.

³ See Section 4-10. Public Involvement. for procedures for involving interested parties.

- Making decisions and directing planning
- Developing new facilities
- Maintaining existing buildings and structures
- Clearing, grubbing, excavation, and/or ground disturbance activities
- Other activities that may have an effect on a historic property.

To ensure compliance with Section 106, the CRM must be contacted early in the planning of an undertaking.

Based on the information provided by those initiating the undertaking, the CRM will address the Section 106 SOPs. Proposed work will not be scheduled for activity until Section 106 compliance has been met and the CRM has notified the project manager in writing.⁴

4.1.4 Procedures for CRM Personnel

Fort Greely's CRM is responsible for coordinating compliance with Section 106 of the NHPA. Compliance with Section 106 may require a four-step process.

Step 1: Establish Undertaking/Initiate Consultation. Initiation of the Section 106 process requires the CRM to determine if the project, activity, or program is an undertaking and, if so, whether it is the type of activity that has the potential to cause effects on historic properties.⁵ An undertaking has the potential to affect historic properties if it may alter, directly or indirectly, any of the characteristics of a historic property that qualify the property for inclusion in the National Register of Historic Places in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association.⁶

- If the CRM determines that the project, activity, or program is not an undertaking that may cause effects to historic properties, then NHPA Section 106 responsibilities are met and the undertaking may proceed.
- If the CRM determines that the project, activity, or program is an undertaking and that it has the potential to cause effects to historic properties, the CRM must initiate consultation with the SHPO to identify potential consulting parties and develop a plan for involving the public. It may be desirable to use NEPA public involvement procedures or other existing agency procedures if they exist. After potential consulting parties have been identified and a public involvement plan has been prepared, the CRM will simultaneously initiate consultation and proceed to Step Two of the NHPA Section 106 process. The SHPO may be contacted at:

State Historic Preservation Officer
Office of History and Archaeology
550 W 7th Avenue, Suite 1310
Anchorage, AK 99501-3561
(907) 269-8721

⁴ It may be desirable to coordinate NHPA Section 106 review with other reviews, such as those required by the National Environmental Policy Act (NEPA). NHPA Section 106 regulations encourage such coordination when possible.

⁵ An undertaking is a project, activity, or program that is funded in whole or in part under the direct or indirect jurisdiction of a Federal agency, including those carried out by or on behalf of a Federal agency; those carried out with Federal financial assistance; those requiring a Federal permit, license, or approval; and those subject to state or local regulation administered pursuant to a delegation or approval by a Federal agency.

⁶ See Section 3.3.4, Assessing Adverse Effects, for guidance on applying the Criteria of Adverse Effect.

Step 2: Identify Historic Properties. In Step 2 the CRM, in consultation with the SHPO, defines the undertaking's APE and identifies and evaluates all historic properties in that area.⁷

- If the CRM determines that there are no historic resources in the APE or that historic properties are present but the undertaking will have no effect upon them, the CRM will document the finding. This documentation must include 1) a description of the undertaking, specifying the Federal involvement, and its APE, including photographs, maps, and drawings, as necessary; 2) a description of the steps taken to identify historic properties; and 3) the basis for determining that no historic properties are present or affected. This documentation will be provided to the SHPO, and to the ACHP if it has entered the Section 106 process. The CRM will request concurrence with the finding from the SHPO. If the SHPO concurs or does not object within 30 days, then NHPA Section 106 responsibilities are met and the undertaking may proceed. If the CRM and the SHPO disagree on the application of the Criteria for Evaluation, then the CRM will obtain a determination of eligibility from the Secretary of the Interior.
- If the CRM determines that historic resources in the undertaking's APE may be affected by the undertaking, or the SHPO or the ACHP objects to the CRM's finding, then the CRM proceeds to Step 3 of the NHPA Section 106 process. If these historic resources include human remains, funerary objects, or objects of cultural patrimony, then the CRM must also proceed to Section 4.4, SOP: Compliance with the *Native American Graves Protection and Repatriation Act of 1990*.

Step 3: Assessment of Adverse Effects. In Step 3, the CRM, in consultation with the SHPO and other interested parties and Native Alaskan Tribes, evaluates an undertaking for any adverse effects it may have on historic properties. Section 3.3.4, Assessing Adverse Effects, explains how to apply the Criteria of Adverse Effect. This evaluation will result in one of two determinations: No Adverse Effect, or Adverse Effect.

- No Adverse Effect: If the CRM determines that an undertaking will result in No Adverse Effect to historic properties, he or she will notify all consulting parties and provide the documentation specified in 36 CFR § 800.11(e).⁸ If the SHPO concurs or does not object with the finding within 30 days, then NHPA Section 106 responsibilities are complete and the undertaking may proceed.
- Adverse Effect: If the CRM determines that an undertaking will result in an adverse effect to historic property, changing its physical appearance or setting, e.g., replacing wood siding with metal siding, replacing multi-light wood sash windows with single pane vinyl clad windows, then the CRM proceeds to Step 4.

Disagreement with Finding: If the SHPO or any consulting party disagrees with the CRM's finding within 30 days, they must specify, in writing, the reasons for the disagreement. The CRM may consult with the party to resolve the disagreement or request the ACHP to review the finding. If the finding is submitted to the ACHP for review the CRM must provide the documentation specified in 36 CFR § 800.11(e). The ACHP will review the finding and notify the CRM of its determination within 15 days of receipt of the documentation. The CRM will proceed in accordance with the ACHP's determination. If the ACHP does not respond within 15 days of receipt of the documentation, the CRM may assume concurrence with the finding and proceed accordingly. The ACHP may be contacted at:

⁷ See Section 3.3.2, Identification/Evaluation, for information on identification and evaluation of historic properties.

⁸ See Section 3.3.4.1.1, Supporting Documentation for Adverse Effect/No Adverse Effect for guidance on documentation required for a determination of No Adverse Effect.

Advisory Council on Historic Preservation
12136 W. Bayaud Avenue, Suite 330
Lakewood, Colorado 80338
(303) 969-5110

Step 4: Resolve Adverse Effects. In this step, the CRM consults with the SHPO and other parties to develop and evaluate alternatives or modifications to the undertaking that could avoid, minimize, or mitigate adverse effects on historic properties. The CRM will notify the ACHP of the finding of adverse effect by providing documentation specified in 36 CFR § 800.11(e). The notice will invite the ACHP to participate in consultation when the CRM wants the ACHP to participate; when the undertaking has an adverse effect on a National Historic Landmark; or when a Programmatic Agreement will be prepared. The SHPO or any consulting party may independently request the ACHP to participate in consultation at any time. This consultation will result in two possible outcomes: a Memorandum of Agreement (MOA) or Programmatic Agreement (PA.) to avoid, minimize, or mitigate the adverse effects; or a failure to resolve adverse effects. An MOA may be executed with or without ACHP involvement.

- If the CRM, the SHPO, and other consulting parties agree on how to resolve the adverse effects, they will execute an MOA. The CRM must submit a copy of the executed MOA, along with any substantive revisions or additions to the documentation provided, to the ACHP when initiating consultation to resolve adverse effects, an evaluation of any measures considered to avoid or minimize the undertaking's adverse effects, and a summary of the views of consulting parties and the public.⁹
- If the CRM, in consultation with the SHPO and other consulting parties, determines that a PA is the appropriate method to avoid, minimize, or mitigate adverse effects, the CRM will initiate consultation with the ACHP and other consulting parties, as appropriate, pursuant to 36 CFR § 800.14(b)(2).¹⁰
- If the CRM, the SHPO, and other consulting parties fail to agree on how to resolve the adverse effects, the CRM will request the ACHP to join the consultation and provide the ACHP documentation specified in 36 CFR § 800.11(g). This documentation must include 1) a description and evaluation of any alternatives or mitigation measures that the CRM proposes to resolve the undertaking's adverse effects; 2) a description of any reasonable alternatives or mitigation measures that were considered but not chosen, and the reasons for their rejection; 3) copies or summaries of any views submitted to the CRM concerning the adverse effects of the undertaking on historic properties and alternatives to reduce or avoid those effects; and 4) any substantive revisions or additions to the documentation provided to the ACHP when initiating consultation to resolve adverse effects. If the ACHP decides to join the consultation, the CRM will consult with the SHPO and other consulting parties to resolve the adverse effects. If the CRM, the ACHP, the SHPO, and other consulting parties agree on how to resolve the adverse effects, they will execute an MOA. An MOA executed and implemented with ACHP

⁹ 36 CFR 800.6(a)(1) requires the CRM to provide documentation specified in 36 CFR 800.11(e) and discussed in Section 3.3.4.1.1, Supporting Documentation for Adverse Effect/No Adverse Effect.

¹⁰ Pursuant to 36 CFR § 800.14(b)(1), Programmatic Agreements are appropriate for programs and projects: (1) when effects on historic properties are similar and repetitive or are multi-state or national in scope; (2) when effects on historic properties cannot be fully determined prior to approval; (3) when non-Federal parties are delegated major decision making responsibilities; (4) when routine management activities are undertaken at Federal installations, facilities, or other land management units; or (5) where other circumstances warrant a departure from the normal NHPA Section 106 process.

participation evidences the CRM's compliance with NHPA Section 106. Upon completion of the stipulations of the MOA, the undertaking may proceed.

- If the ACHP decides not to join in consultation, the ACHP will notify the CRM and proceed to comment in accordance with 36 CFR § 800.7(c).

Failure to Resolve Adverse Effects: After consulting to resolve adverse effects pursuant to 36 CFR § 800.6(b)(2), the CRM, the SHPO, or the ACHP may determine that further consultation will be unproductive and terminate consultation. Any consulting party that terminates consultation will notify the other consulting parties and provide them the reasons for terminating in writing.

- If the CRM terminates consultation, the head of the agency or another officer with major department-wide or agency responsibilities will request ACHP comment pursuant to 36 CFR § 800.7(c) and notify all consulting parties of the request.
- If the SHPO terminates consultation, the CRM and the ACHP may execute an MOA without the SHPO's involvement.
- If the ACHP terminates consultation, the ACHP will notify the CRM, the agency's Federal Preservation Officer, and all consulting parties and comment under 36 CFR § 800.7(c). The ACHP may consult with the agency's Federal Preservation Officer prior to terminating consultation in an effort to resolve issues concerning the undertaking and its effects on historic properties.
- The ACHP will transmit its comments to the head of the agency, the CRM, the Federal Preservation Officer, and all consulting parties within 45 days of termination. The head of the Federal agency will take into account the ACHP's comments in reaching a final decision on the undertaking. The head of the Federal agency will document this decision. Documentation will include: 1) A summary of the decision that contains the rationale for the decision and evidence of consideration of the ACHP's comments and providing it to the ACHP prior to approval of the undertaking; 2) a copy of the summary to all consulting parties; and 3) Notifying the public and making the record available for public inspection.

NOTES

4.2 SOP: Compliance with Archeological Resources Protection Act of 1979

The Archaeological Resources Protection Act (ARPA) protects archaeological resources and sites on public and Indian lands. ARPA outlines illegal activities involving archaeological resources and prescribes civil and criminal penalties for each, establishes a permitting process that outlines specific conditions for removal of archaeological resources from public and Indian lands, and provides for the confidentiality of archaeological resources information.

4.2.1 Who is Responsible for ARPA Compliance?

Compliance with ARPA is the responsibility of the Garrison Commander. The CRM, acting on behalf of the Garrison Commander, will coordinate with the DA Police and the installation Public Affairs Office on Fort Greely to facilitate ARPA compliance. The CRM will confirm that those conducting archaeological surveys on the Forts have permits and will monitor permitted activities to verify that terms and conditions of the permits are being met.

4.2.2 Who Are the Participants in the ARPA Compliance Process?

Participants in the ARPA compliance process are as follows:

- Fort Greely CRM
- Environmental Coordinator's Office
- DA Police
- Public Affairs Officer.

In cases of ARPA violations, the National Park Service may be contacted for technical assistance.

U.S. National Park Service
Chief of Cultural Resources
2525 Gamble Street
Anchorage, AK 99503
(907) 257-2699

4.2.3 Procedures for Non-CRM Personnel

4.2.3.1 Permitting – Anyone wishing to conduct an archaeological excavation on Fort Greely must first obtain an ARPA permit. A permit will be coordinated through the CRM. The CRM will apply to U.S. Army Corps of Engineers for proper permitting.

U.S. Army Corps of Engineers
Regulatory Branch
P.O. Box 898
Elmendorf AFB, AK 99506
(907) 753-2712

4.2.3.2 Enforcement – An ARPA violation is a Federal offense, defined as:

- The excavation or removal of archaeological materials from public or Indian lands without a permit
- The damaging, alteration, or defacement of archaeological materials or sites located on public or Indian lands
- The sale, purchase, exchange, transport, or receiving of any archaeological resource removed from public or Indian lands.

If such a violation occurs or is believed to have occurred, it should be reported to the DA Police immediately.

Law enforcement personnel will contact the CRM when an ARPA violation is reported. The CRM will enlist the U.S. Army Corps of Engineers (USACOE), who will take the lead. If the violation is in relation to a permit, the permitting agency will take the lead.

4.2.4 Procedures for CRM Personnel

4.2.4.1 Permitting – Fort Greely's CRM is responsible for ensuring ARPA compliance. Applicants will submit archaeological permit applications to the CRM for review and concurrence. The CRM has 30 days in which to grant or deny the application. The CRM will submit the approved application to the USACOE, who will issue the permit and monitor the permitted activity to verify compliance with permit terms and conditions.

4.2.4.2 ARPA Violations – When an ARPA violation is reported, the CRM will contact the USACE or enlist the services of a contract archaeologist to investigate the violation. The investigator must possess qualifications outlined in 32 CFR § 229.8 and prepare a report addressing the issues outlined in 32 CFR § 229.14.

U.S. Army Corps of Engineers
Regulatory Branch
P.O. Box 898
Elmendorf AFB, AK 99506
(907) 753-2712

4.3 SOP: Accidental Discovery of Archaeological Materials

Accidental discovery of archaeological materials is always a possibility during ground-disturbing activities. Pedestrian surveys cannot always identify all archaeological resources in a survey area. The following are steps to be followed to ensure that archaeological resources are protected in case of an accidental discovery.

4.3.1 Who is Responsible for Inadvertent Discoveries of Archaeological Materials?

The Garrison Commander and CRM are responsible for ensuring that accidental discoveries of archaeological materials are managed properly on Fort Greely. The Garrison Commander will direct the CRM to coordinate with personnel to ensure that accidental discoveries are addressed in accordance with this SOP. Personnel affected by this SOP include those involved in undertakings that could potentially result in accidental discoveries. The CRM must ensure that these personnel are informed on procedures to follow during such an occurrence.

4.3.2 Who Are the Participants?

When archaeological materials are discovered, the participants are as follows:

- Fort Greely CRM
- SHPO
- Interested parties (if applicable).

4.3.3 Procedures for Non-CRM Personnel

If artifacts are encountered during an undertaking, all activity in the direct vicinity will stop immediately and personnel will notify the CRM. The affected project area will be marked and secured from unauthorized artifact collection. The CRM will inspect the site to determine if the discovery represents an intact archaeological site, or an isolated artifact that is no longer in context with an intact site. If the CRM determines that it is an isolated find, the project can proceed but must be monitored by the CRM.

4.3.4 Procedures for CRM Personnel

If the CRM determines that it is an intact archaeological site, the CRM will initiate the Section 106 process to determine the site's National Register eligibility and, if necessary, determine a course of action to avoid or mitigate the site, in consultation with the SHPO. If the site contains human remains, funerary objects, sacred objects, or objects of cultural patrimony, the CRM must also address NAGPRA SOPs to ensure compliance with NAGPRA (see SOP 4-4). Work at the site will not resume until the CRM has provided approval for the project to continue.

If an accidental discovery of archaeological materials occurs on Fort Greely, the CRM will investigate or may enlist the services of a contract archaeologist to investigate the material and make a determination of eligibility. The investigator must possess the qualifications outlined in 32 CFR § 229.8.

The archaeologist will evaluate the site for its eligibility for the National Register. The CRM will seek concurrence with the determination from the SHPO. If the site is determined eligible for the National Register, the CRM will initiate Step 3 of the Section 4.1.4 SOP for CRM Personnel for compliance with Section 106. If the site is determined ineligible for the NRHP, the CRM will approve the undertaking to proceed.

State Historic Preservation Officer
Office of History and Archaeology
550 W 7th Avenue, Suite 1310
Anchorage, AK 99501-3561
(907) 269-8721

4.4 SOP: Compliance with the Native American Graves Protection and Repatriation Act of 1990

The Native American Graves Protection and Repatriation Act (NAGPRA), enacted in 1990, provides for the protection of Native American human remains and associated funerary items that are discovered on Federal and Indian lands. Concerns covered by NAGPRA include the extent to which any prehistoric culture can be linked to existing tribal affiliations, repatriation of sacred materials and objects of cultural patrimony to the appropriate Native American tribal entity, and the reburial of human remains exhumed by erosion, construction, vandalism, or archaeological excavation. Section 3.1.3., Compliance with the *Native American Graves Protection and Repatriation Act of 1990*, provides information on this Act.

4.4.1 Who is Responsible for the NAGPRA?

The Garrison Commander is responsible for ensuring NAGPRA compliance on Fort Greely. The Garrison Commander will direct the CRM to coordinate with appropriate personnel to facilitate compliance with NAGPRA.

4.4.2 Who are the Participants in NAGPRA Compliance?

The participants in NAGPRA compliance are as follows:

- Fort Greely CRM
- DA Police
- U.S. Army Corps of Engineers (USACE)
- Consulting Parties.

Consulting parties will include, but are not limited to, the Tanana Chiefs Conference.¹¹

4.4.3 Procedures for Non-CRM Personnel

4.4.3.1 Intentional Excavation of Native American Human Remains and Associated Objects – Intentional excavation of human remains, funerary objects, sacred objects, and objects of cultural patrimony may result out of two different circumstances: an expressed interest by a researcher to conduct archaeological research, or a determination by the CRM that a planned activity may result in the excavation of such items. The latter will be addressed in Section 4.4.4, Procedures for CRM Personnel. Researchers wishing to conduct archaeological investigations involving Native American human remains and objects on Fort Greely must obtain an ARPA permit following procedures outlined in Section 4.2, SOP: Compliance with the *Archaeological Resources Protection Act of 1979*, before such excavation may begin. The investigator must consult with appropriate Alaska Native tribal entities and show proof of such consultation, and the ownership and right of control of the disposition of such items must be determined before an ARPA permit will be issued.

4.4.3.2 Inadvertent Discovery of Native American Human Remains and Associated Objects – If human remains, funerary objects, sacred objects, and objects of cultural patrimony are encountered during an undertaking, NAGPRA requires all activity in the direct vicinity of the discovery to stop for 30 days. Personnel will notify the CRM immediately and take steps to protect the site from further disturbance.

¹¹ Consulting parties as defined by NAGPRA include lineal descendants and Indian tribe officials: (1) from Indian tribes on whose aboriginal lands the planned activity will occur or where the inadvertent discovery has been made; and (2) from Indian tribes and Native Hawaiian organizations that are, or are likely to be, culturally affiliated with the human remains, funerary objects, sacred objects or objects of cultural patrimony; and (3) from Indian tribes and Native Hawaiian organizations that have a demonstrated cultural relationship with the human remains, funerary objects, sacred objects or objects of cultural patrimony.

If human remains are present or appear to be present, personnel will notify the military police and the local law enforcement agency immediately. The DA police will secure the site until representatives of the appropriate local law enforcement agency arrive to investigate. The site, regardless of apparent age, will initially be treated as a crime scene. If there is evidence to suggest that the remains may represent a relatively recent crime scene, the State Police will also be notified.

Alaska State Troopers
P.O. Box 465
Delta Junction, AK 99737
(907) 895-4800

The local law enforcement agency will maintain jurisdiction over the site until it is satisfied that no crime has occurred. Once the local law enforcement agency determines the site does not represent a crime scene, the CRM will take charge of the site.

4.4.4 Procedures for CRM Personnel

4.4.4.1 Intentional Excavation of Native American Human Remains and Associated Objects – If the CRM determines that a planned activity may result in the excavation of human remains, funerary objects, sacred objects, and objects of cultural patrimony, then consultation must be initiated to determine the ownership and right of control of the disposition of such items. The CRM will notify, in writing, the Indian Tribe Officials, the TCC, and other consulting parties that are likely to be affiliated with any human remains, funerary objects, sacred objects or objects of cultural patrimony that may be excavated. This notification should be followed by telephone contact if no response is received within fifteen days.

The CRM will carry out consultation with the Indian Tribe Officials, the TCC, and other consulting parties as discussed in Section 3.3.5.2. The objective of this consultation is to develop a written plan of action for treatment of human remains, funerary objects, sacred objects or objects of cultural patrimony that may be excavated. This plan of action must document requirements discussed in section 3.3.5.2. If human remains, funerary objects, sacred objects or objects of cultural patrimony are to be excavated. An ARPA permit must be obtained following procedures outlined in Section 4.2 SOP: Compliance with the *Archaeological Resources Protection Act of 1979* before such excavation may begin. The CRM will staff the plan of action through channels as discussed in Section 4.1, SOP: Addressing Compliance with Section 106 and AR 200-4. Once stipulations of the plan of action have been met the CRM may clear the undertaking to continue.

In the event that an agreement cannot be reached, either party may request arbitration from the NPS.

U.S. National Park Service
Chief of Cultural Resources
2525 Gamble Street
Anchorage, AK 99503
(907) 257-2699

4.4.4.2 Inadvertent Discovery of Native American Human Remains and Associated Objects – Within 3 days of receipt of written confirmation, the CRM must certify receipt of notification; take steps, if necessary, to further secure and protect the site; and notify by telephone, with written confirmation, the Tanana Chiefs Conference and other consulting parties as discussed in Section 3.3.5.2. The CRM will also contact the USACE for NAGPRA sites discovered on the cantonment.

U.S. Army Corps of Engineers
Regulatory Branch
P.O. Box 898
Elmendorf AFB, AK 99506
(907) 474-2311

The CRM will carry out consultation with the Tanana Chiefs Conference and other consulting parties as discussed in Section 3.3.5.2. The objective of this consultation is to develop a written plan of action documenting the requirements discussed in section 3.3.5.2. If the human remains, funerary objects, sacred objects or objects of cultural patrimony are to be excavated an ARPA permit must be obtained following procedures outlined in Section 4.2 SOP: Compliance with the *Archaeological Resources Protection Act of 1979* before such excavation may begin.

NOTES

4.5 SOP: Curation of Artifacts

Artifacts recovered through cultural resources management activities must be curated in compliance with 36 CFR 79, *Curation of Federally-Owned and Administered Archaeological Collections*. This regulation and 48 FR 44737, *Archaeology and Historic Preservation: Secretary of the Interior's Standards and Guidelines*, establish standards that curation facilities must meet in order to house artifacts removed from public lands."

4.5.1 Who is Responsible?

The curation of artifacts removed from Fort Greely is the responsibility of the CRM, acting on behalf of the Garrison Commander. The CRM will coordinate with the University of Alaska Museum, any ARPA permittees, and others undertaking research on Army lands to ensure that artifacts are properly curated.

4.5.2 Who are the Participants?

The participants in the curation of artifacts are as follows:

- Fort Greely CRM
- University of Alaska Museum
- Those conducting cultural resources activities on Fort Greely.

4.5.3 Procedures for Non-CRM Personnel

For purposes of this SOP, non-CRM personnel will be the University of Alaska Museum personnel, and those conducting cultural resources activities on Fort Greely.

The University of Alaska Museum serves as a primary repository for cultural and natural history collections from university research and academic units, state and Federal agencies, and Alaska Native Corporations. As such, the Museum will curate artifacts removed from Fort Greely.

An MOA with the University of Alaska Museum is currently being negotiated for the curation of artifacts recovered at Fort Greely. ARPA permit holders conducting surveys on Fort Greely must prepare artifacts for curation in accordance with the requirements spelled out in the MOA. The Museum has specific requirements for preparation of artifacts that must be met prior to acceptance for curation. This will be clearly spelled out in any permits that may require the curation of artifacts. These include cultural resources less than 100 years old. Guidelines for preparing artifacts for curation are provided in Appendix TBD.

4.5.4 Procedures for CRM Personnel

Scopes of work and contracts drawn up for historic and archaeological surveys will include a copy of the guidelines for curation of artifacts, as required by the University of Alaska Museum. The CRM will make the costs of curation part of the overall project costs. Guidelines for preparing artifacts for curation are provided in Appendix TBD.

Archaeology Collections Manager
University of Alaska Museum
P.O. Box 756960
Fairbanks, AK 99775
(907) 474-6943

NOTES

4.6 SOP: Cultural Resources Contracting

4.6.1 Who is Responsible?

The CRM and the Director of Contracting, acting on behalf of the Garrison Commander, are responsible for Cultural Resources Contracting.

4.6.2 Who are the Participants?

The participants in cultural resources contracting are as follows:

- Fort Greely CRM
- Director of Contracting
- Prospective contractors.

4.6.3 Procedures for Non-CRM Personnel

Non-CRM personnel include the Director of Contracting and prospective contractors. The Director of Contracting will use the requirements and guidelines outlined in scopes of work provided by the CRM, to write cultural resources contracts. The Director of Contracting will ensure that contractors awarded contracts that involve cultural resources activities have personnel meeting the professional standards needed.

Prospective contractors will meet professional qualifications as outlined in the Secretary of the Interior's Professional Qualifications Standards (36 CFR 61) as appropriate to work being performed.

Deliverables will follow the Secretary of the Interior's Standards for the specific cultural resource activity or activities specified in the contract. If the contract is in response to an ARPA violation or NAGPRA issue, the deliverables will follow the standards specified in their respective sections.

4.6.4 Procedures for CRM Personnel

The CRM will write scopes of work for all cultural resource activities and provide technical support to Directorate of Contracting personnel and contractors. The CRM will review cultural resources contracts before they are let to ensure that all specifications spelled out in the Scope of Work are clearly enumerated in the contract. Once the contract is signed, the CRM will be the point of contact for the contractor throughout the life of the contract.

NOTES

4.7 SOP: Archaeological Site Disclosure

The confidentiality of the nature and location of archaeological resources is provided for in 32 CFR § 229.18. The confidentiality and location of historic resources is provided for in 36 CFR § 800.11, pursuant to Section 304 of the National Historic Preservation Act (NHPA). Maintaining the confidentiality of the prehistoric sites will prevent unauthorized disturbance or looting of Native Alaskan resources.

4.7.1 Who is Responsible?

The Garrison Commander is responsible for ensuring the confidentiality of cultural resources location information. The Garrison Commander will direct the CRM to coordinate with the Environmental Coordinator, DPW and the installation mapping technicians to maintain the confidentiality of the cultural resources location information.

4.7.2 Who are the Participants?

The participants in this SOP are as follows:

- Fort Greely CRM
- Environmental Coordinator
- Mapping Technician
- Alaska State Historic Preservation Officer (SHPO).

4.7.3 Procedures for Non-CRM Personnel

Non-CRM personnel will have access to cultural resources location information only when authorized by the CRM. Authorized users may include representatives of Federal, state, or local governments on office business; researchers engaged in legitimate scientific research; individuals or representatives of organizations conducting cultural resource surveys aimed at protection of such information or sites; or such individuals determined by the CRM as having a legitimate need for access. The GIS Technician will release this information by direction of the CRM. Requests for this information must be made in writing to the CRM.

The CRM has 30 days to review a request for information. The CRM may grant or deny the request, or request additional information.

4.7.4 Procedures for CRM Personnel

For purposes of this SOP, CRM personnel will consist of the CRM, the Staff Judge Advocate, and the GIS Technician. The SJA will assist the CRM in determining if requests for cultural resources location information are legitimate with respect to laws and user agreements governing cultural resources. The GIS Technician will provide the requested information as directed by the CRM.

The CRM will coordinate with the SJA to ensure that cultural resources location information is managed according to laws and user agreements protecting such information.

The CRM will review documents prepared by the GIS Technician for general distribution to ensure that they are void of confidential data prior to release.

NOTES

4.8 SOP: Maintenance and Repair of Historic Properties

Fort Greely has 24 Cold War-era historic buildings that are the subject of a Memorandum of Agreement (MOA) with the Alaska SHPO. The MOA resulted in a complete photo recordation of buildings; this photo recordation was deposited at the National Archives at Anchorage. The MOA allows the use, rehabilitation, or destruction of these buildings without Section 106 consultation with the SHPO. No other buildings or structures that are eligible for the National Register of Historic Places have been identified at Fort Greely. Should other buildings, which reach 50 years of age in the future, be identified as National Register-eligible, an SOP will be developed to protect those buildings during the course of maintenance and repair activities.

NOTES

4.9 SOP: Interaction with the Public and Interested Parties

Historic preservation laws and regulations require Federal agencies to provide the public and interested parties with the opportunity to comment on cultural resources management activities that may affect them. The process used to accomplish consultation on Fort Greely is the NEPA process outlined in 40 CFR § 1506.6, Public Involvement. AR 200-2 provides procedures for involving the public.

4.9.1 Who is Responsible for Public Involvement?

The Garrison Commander is responsible for ensuring proper public involvement in cultural resources management activities. The Garrison Commander will direct the CRM to coordinate with appropriate personnel to facilitate public involvement.

4.9.2 Who are the Participants in Public Involvement?

Participants in public involvement include the following:

- Fort Greely CRM
- Public Affairs Officer (PAO)
- Indian tribes
- The public
- Interested parties.

In accordance with Executive Order 13084, Indian tribes must be directly contacted when their participation in this SOP becomes desirable or necessary. Seven Native Alaskan Tribes have been identified as having cultural or traditional ties to the Fort Greely area. Those Tribes are listed in Table 2-2. Other organizations, listed in Section 2.9, may express interest in certain activities and will be included in the process as they are identified.

4.9.3 Procedures for Non-CRM Personnel

The PAO will review requests for public comment on cultural resources matters. The PAO will send media releases to appropriate news and clearinghouse organizations with the guidance of the CRM. The PAO does not participate in gathering public comments at forums.

4.9.4 Procedures for CRM Personnel

The CRM will determine the scope and nature of public involvement for each undertaking. The CRM will write specifications for this public involvement, e.g., public meetings, questionnaires, interviews, written comments, etc. Specifications will include required technical information, as well as times and dates of said events. The CRM will be responsible for drafting pertinent media releases regarding planned activities. The PAO will review these documents prior to release and will assist the CRM with their release. The CRM will be responsible for gathering public comments, synthesizing public comments, conducting public meetings, and developing other avenues of public involvement, as needed, and incorporating information collected into the project review process.

NOTES

5.0 CULTURAL RESOURCES INVENTORY

This chapter presents information concerning previous archaeological and historic buildings surveys that have occurred at Fort Greely and the results of those surveys. This information includes a listing of all known resources and their National Register eligibility.

To manage a resource successfully, it is necessary to identify that resource. Section 2.5, Historic Context, provides an understanding of what historic properties might be present on the installations. This section provides an overview of work that has been done, literature generated by that work, and the inventory of historic properties identified from the work. The cultural resources inventory provided in this section is based on information kept on file in the Alaska Heritage Resources Survey (AHRS) in the Alaska Office of History and Archaeology.¹ The AHRS lists historic sites regardless of their National Register of Historic Places (NRHP) eligibility or status.

5.1 Literature Review

5.1.1 Summary of Investigations

The earliest written accounts of the Fort Greely region are by trappers, traders, and prospectors who entered the region in the late nineteenth century. While generally unreliable from a scientific standpoint, these accounts recorded the first contact with Natives in the region and present a broad geographic overview of the area. The first scientific exploration of the region took place in 1885 when Lieutenant Henry Allen led an expedition that descended the Tanana River. He observed Native camps at the mouth of the Goodpaster and Delta Rivers. With the discovery of gold at Birch Creek and the establishment of Circle City in the 1890's, more expeditions were initiated to better map the area and locate transportation and communication routes into the Interior mining camps. Reports of these expeditions provided accounts of the Natives in the region and the geography of the Tanana Valley.

While gold brought people to the region throughout the early 1900's and provided the impetus for mapping expeditions, it was not until the 1930's that the first archaeological investigations took place. Beginning in 1934, under the direction of John Dorsh, and later under Froelich Rainey, archaeological excavations were conducted at the Campus Site in Fairbanks. Work continued at the site until 1937. During the summer of 1936, Rainey conducted a quick survey of the Tanana River Valley from the Upper Copper River and concluding at the Tanana's confluence with the Yukon. During this investigation, a number of historic and prehistoric Athabaskan sites were identified. These early investigations were the first to scientifically establish the ancient inhabitation of Interior Alaska, and established the basis for later investigations in the region.

Through the 1940's and 1950's, archaeological work was sporadic. In the early 1960's, Robert McKennan began preliminary excavations at Healy Lake. John Cook and William Workman continued efforts at this site into the late 1960's. In 1964, Frederick Hadleigh West began exploring sites in the area around Donnelly Ridge, about 20 miles south of the Fort Greely cantonment. In the 1970's, studies along the proposed pipeline route, upgrades on Fort Greely, and renewal of military land withdrawals resulted in numerous cultural resources surveys. Of the approximately 70 new sites that were discovered during this time, only a handful were identified on Fort Greely proper. Studies continued in the 1980's.

¹ The AHRS is a state-maintained database of all identified historic and prehistoric sites in Alaska. All archaeological sites are entered in the belief that any one of them may yield information important in history and prehistory. Extant historical features associated with local, state, national, or international events or personages; commemorative locations to which popular importance is attached; and loci or phenomena reported in folk tradition are also recorded.

Figure 5-1 Fort Greely known cultural resources and surveyed areas

Information on specific locations of the archaeological sites at Fort Greely have been removed in compliance with 36 CFR § 800.11, pursuant to Section 304 of the NHPA.

During the preparations for Fort Greely's BRAC, a survey was conducted of all of Fort Greely's buildings. No World War II buildings were found that met National Register eligibility. Twenty six buildings that were considered eligible under a Cold War context were identified in the main Fort Greely cantonment area.

Figure 5-1 provides the location of all known archaeological sites, the Cold War historic district and the previously surveyed portions of Fort Greely.

5.1.2 Published Investigations

Since the 1880's, researchers and explorers have worked in the region encompassing Fort Greely. A listing of the persons or organizations that have conducted research and a brief synopsis of their work are presented in Table 5-1. These reports are on file with the Office of History and Archaeology in Anchorage. In addition, the more recent publications shown in Table 5-1 that deal with Fort Greely specifically can be found in the Fort Greely Environmental Office Library.

Table 5-1. Previous Cultural Resource Investigations (Sheet 1 of 5)

Date	Author	Title and Comments
1900	Allen, Henry T.	<p><i>Military Reconnoissance [sic] in Alaska.</i> In <i>Compilation of Narratives of Explorations in Alaska</i>, Sen Report No. 1023, Vol. 2. Government Printing Office, Washington, D.C.</p> <p>This report by Henry Allen of his exploration of the Copper River and Tanana River Valleys in 1885 is one of the earliest accounts of Interior Alaska and its Native inhabitants. It identifies Native camps at the mouth of the Volkmar (Goodpaster) and Delta Rivers. One valuable reference in the work is its obvious description of Natives afflicted with diseases brought into the territory by white settlers. It is also valuable for the in-depth discussion of the area's geography.</p>
1900	Castner, J. C.	<p><i>A Story of Hardship and Suffering in Alaska.</i> In <i>Compilation of Narratives of Explorations in Alaska</i>, Senate Report No. 1023, Vol. 2. Government Printing Office, Washington, D.C.</p> <p>Castner followed part of Allen's route in the fall of 1898, entering the Tanana at the mouth of the Delta River. He was the first to document the Salchuchet (Salcha) River and Native village located at its mouth. He noted that the Volkmar (Goodpaster) and Salchuchet (Salcha) Natives travel up this river to Birch Creek and Circle City to trade. Also documented in Castner's report is the impact of the white man on Natives in Alaska. He observed that most of their clothing, cooking utensils, furniture, and customs have been replaced or altered by that of the white man. A final remark indicated that since Allen passed through the region, the Native population had been further ravaged by disease brought in by prospectors and traders.</p>

Table 5-1. Previous Cultural Resource Investigations (Sheet 2 of 5)

Date	Author	Title and Comments
1900	McManus, George	<p><i>A Reconnaissance (sic) Between Circle City and the Tanana. In Compilation of Narratives of Explorations in Alaska, Senate Report No. 1023, Vol. 2. Government Printing Office, Washington, D.C.</i></p> <p>This is a report of an unsuccessful attempt to reach the Tanana River from Circle City in 1899. McManus estimates that he traveled 145 miles from Circle City, stopping about 55 miles from the Tanana. McManus indicates that the trail is widely used by the Natives and that a trail connecting Circle City to the Tanana would be feasible, recommending that it connect with the Tanana at either the Chena or Delta River.</p>
1976	Cook, John P.	<p><i>Progress Report-Analysis of Pipeline Archaeology. Fairbanks, AK: University of Alaska. This survey is of the Trans-Alaska Pipeline route, but did not make any notable finds on Army land.</i></p>
1979	Bacon, Glenn, and Charles Holmes	<p><i>Archaeological Survey and Inventory of Cultural Resources at Fort Greely. Fairbanks, AK: Alaskarctic.</i></p> <p>The survey included approximately 1,117 acres on the Ft. Greely Cantonment area and 3,300 acres on the Black Rapids Training Site. The survey was conducted between October 1, 1978, and January 31, 1980. The report includes background research, fieldwork, and analysis. In addition to known sites surveyed, four previously unreported sites, including one deemed eligible for the NRHP, were discovered and over 4,500 artifacts, some over 13,000 years old, were recovered. Only one site at Fort Greely, XMH-280, was investigated during this survey.</p>
1979	Holmes, Charles E.	<p><i>Report of Archaeological Reconnaissance: Withdrawal Area, Fort Greely, Alaska. Fairbanks, AK: Alaskarctic.</i></p> <p>This was a reconnaissance survey conducted by a four-member team in July and August of 1978. It located 74 archaeological sites with only one site at Fort Greely identified (XMH-280).</p>
1980	Steele, Julia L.	<p><i>Fort Greely Bison Trail Archaeological Survey, Fort Greely, Alaska. Anchorage, AK: Alaska District, U.S. Army Corps of Engineers</i></p> <p>The survey involved an intensive survey of the Delta bison herd trail, except for a small section that had been previously surveyed by Holmes, and an easement along the trail. Testing was done in areas where it was deemed necessary. As an addendum to the survey, the environmental specialist at Fort Greely asked that a survey of Cannister Lake be conducted in order to clear the area for possible future campground construction. One Fort Greely site, XMH-324, was located on the lakeshore as a result of this survey.</p>

Table 5-1. Previous Cultural Resource Investigations (Sheet 3 of 5)

Date	Author	Title and Comments
1981	Aigner, Jean S. and Brian L. Gannon	<p><i>Archaeological Survey in Alaska, Final Report on the 1980 Archaeological Survey Along the Northwest Alaskan Natural Gas Pipeline Corridor from Prudhoe Bay to Delta Junction.</i> Fairbanks</p> <p>Survey for sites in proposed area of impact of a proposed natural gas pipeline indicating no archeological or historic sites in the project area on military reservation lands.</p>
1998	Reynolds, Georgianne	<p><i>Archaeological Survey Report for Fort Greely Cantonment Area, U.S. Army Corps of Engineers, Alaska District.</i></p> <p>This one page report describes the surface reconnaissance of Fire Tower Hill (which had already been surveyed), but does not describe the actual boundaries of the survey area (no maps are provided). It mentions that 20 shovel test pits found no artifacts, but does not indicate where the pits were dug or what methodology was used to determine where to dig them. It concludes that the "cantonment area" is free of archaeological resources. This report is flawed and its conclusions should not be used for future analysis.</p>
1999	Mobley, Charles M.	<p><i>Final Inventory and Evaluation of Military Structures at Fort Greely, Delta Junction, Alaska.</i> U.S. Army Corps of Engineers, Alaska District, Anchorage, AK: Charles M. Mobley & Associates.</p> <p>This survey of Fort Greely was conducted in the fall of 1997 as part of the Army's requirements for Base Realignment and Closure (BRAC). It resulted in the identification of 207 World War II and Cold War buildings and structures on the post. Twenty Six Cold War buildings were identified as meeting National Register eligibility requirements.</p>
2000	Northern Land Use Research, Inc. and EDAW	<p><i>Final Cultural Resource Survey: Fort Greely and the Yukon Training Area (Fort Wainwright), Alaska for the National Missile Defense (NMD) Program.</i> U.S. Army Space and Missile Defense Command, Huntsville, AL.</p> <p>The survey covered the area where the Ground-based Midcourse Defense (GMD) area was constructed. No resources were found in the survey area.</p>

Table 5-1. Previous Cultural Resource Investigations (Sheet 4 of 5)

Date	Author	Title and Comments
2002	Holmes, Charles E.	<p><i>Summary Report: Determination of National Register Eligibility for Three Archaeological Sites at Fort Greely, Alaska.</i> Office of History and Archaeology, Anchorage. Report Number 89.</p> <p>This report determined that XMH-280 is eligible for the National Register and that XMH-315 and XMH-316 are ineligible. During an informal reconnaissance of other areas of Fort Greely, a new site (XMH-871) was discovered just south of the Ammunition Supply Point.</p>
2002	U.S. Army Corps of Engineers	<p><i>Documentation for Historic Facilities. Fort Greely, Junction City Alaska.</i> U.S. Army Corps of Engineers. Preparer unknown.</p> <p>This Historic American Building Survey (HABS) Level IV Recordation was prepared in response to a requirement set forth by a Memorandum of Agreement between the U.S. Army and the State Historic Preservation Office. The report was intended to serve as mitigation for potential remodeling or demolition of 26 National Register-eligible buildings. The report met minimum standards for acceptance by the SHPO. It lacks an introduction, intent, and has no title sheet or Table of Contents. The original, with photos, documentation, and scale drawings, is on file at the Anchorage National Archives Office.</p>
2004	Aaron Robertson, Colorado State University	<p><i>Archaeological Survey for Fort Greely Barrow Pit Area.</i> U.S. Army Space and Missile Defense Command, Fort Greely.</p> <p>The survey investigated approximately 250 acres where a new gravel barrow pit complex was to be operated. No resources were found in the survey area; however, during an informal terrain walk by Aaron Robertson and Mark Hubbs, a site was discovered just outside of the survey area. This site, XMH-1168, yielded a single Northern Archaic side notch point on the surface. An eligibility determination of the site has not yet been made.</p>

Table 5-1. Previous Cultural Resource Investigations (Sheet 5 of 5)

Date	Author	Title and Comments
2004	Mark Hubbs, Teledyne Solutions, Inc.	<p><i>Archaeological Survey Report of Four Potential Construction Areas at Fort Greely, Alaska.</i> Fort Greely Environmental Office.</p> <p>This survey investigated four areas in preparation for future construction projects. Although the construction footprints were only a few acres; the survey areas were enlarged greatly to encompass as much acreage as possible during the survey. No new resources were found during the survey.</p>
2004	Mark Hubbs, Teledyne Solutions, Inc.	<p><i>Archaeological Survey Report for Entry Control Point (ECP), Fort Greely Alaska.</i> Fort Greely Environmental Office.</p> <p>The construction footprint for a new entrance security building and associated parking lot adjacent to the missile field was investigated by means of sub-surface test pits. No new resources were found during the survey.</p>

5.2 Listing of Known Archaeological and Historic Properties

5.2.1 Archaeological Sites

Table 5-2 describes each of the known Fort Greely Archaeological Properties at Fort Greely and indicates its National Register of Historic Places eligibility status. These sites were identified during the surveys listed in Section 5.1.

Table 5-2. Fort Greely Archaeological Properties (Sheet 1 of 3)

Site Number	National Register Eligibility Status	Cultural Affiliation	Comments
XMH-280	Eligible	Paleoarctic	<p>Archaeological site XMH-0280 was discovered and briefly tested in 1978 (Holmes, 1979). Holmes noted prehistoric lithic artifacts exposed in the road system on the moraine. On the basis of surface artifacts, five test pits were excavated in undisturbed areas. Additional work was conducted at XMH-0280 later in 1979 (Bacon, et al., 1979). An expanded excavation was conducted. A total of 2,221 artifacts were recovered from the excavations. On the basis of diagnostic artifacts and context, the archaeologists offered the hypothesis that the site was a single component with a strong association with the Denali complex. The site was described as "large," estimated at 1.125 hectares and partially disturbed by roads and use as a ski facility (Bacon, et al., 1979: 93, 97).</p> <p>In 1985, a team of Japanese archaeologists conducted additional testing at the site. Details of the work carried out are sketchy. The University of Alaska Museum has recently received a shipment of artifacts from the Japanese archaeologist in charge of the 1985 excavations.</p> <p>In 2002, Charles Holmes returned to further investigate the site. Diagnostic artifacts included microblade cores, biface projectile points, microblades, and various retouched flakes (see Figure 5-2). By far, most of the 7,000 lithic artifacts recovered were small waste flakes.</p>

Table 5-2. Fort Greely Archaeological Properties (Sheet 2 of 3)

Site Number	National Register Eligibility Status	Cultural Affiliation	Comments
XMH-315	Not Eligible	Unknown	Site XMH-0315 was identified during survey work conducted in 1979 (Bacon, et al., 1979: 41). Following a surface survey of the potential site area, four 50- x 50-cm test pits were excavated in undisturbed areas (Bacon, et al., 1979: 41). Two tests were devoid of artifacts and two pits were expanded into 1- x 1-m test units. The yield of artifacts from the expanded tests was one lithic artifact in one pit and 270 in the other. Additional testing in 2002 (Holmes, 2002) recovered more lithic artifacts in some shovel test pits, but it was evident that the site had been severely impacted by a variety of ground disturbances. Holmes determined that it was unlikely that the site could yield sufficient prehistoric information to make it eligible for the National Register.
XMH-316	Not Eligible	Unknown	Site XMH-0316 was discovered during survey work conducted in 1979 (Bacon, et al., 1979: 41). A few lithic artifacts were found on the road near the highest position of the hill. On the basis of these surface finds and the topographic setting, five 50- x 50-cm test pits were excavated in undisturbed areas. Two tests pits produced a single lithic artifact each, a third test produced two lithic artifacts, and the other two tests did not yield any artifacts. The significance of the site was questioned at the time, but left to future determination (Bacon, et al., 1979: 113). In 2002, Holmes returned to the site and excavated eight shovel test pits. None yielded any artifacts. It was determined that the site was not eligible for the National Register (Holmes, 2002).
XMH-324	Not Evaluated	Unknown	Julia Steele discovered this site while conducting the Fort Greely Bison Trail Archaeological Survey in 1980. The site consisted of a small scattering of lithic waste flakes on the road next to Cannister Lake. This is the only site discovered at Fort Greely that is not located on elevated terrain.

Table 5-2. Fort Greely Archaeological Properties (Sheet 3 of 3)

Site Number	National Register Eligibility Status	Cultural Affiliation	Comments
XMH-827	Not Eligible/See Comments	Unknown	XMH-827 was reported to the SHPO by an unknown person as a small lithic scatter. During consultation with the SHPO in 2004, Fort Greely contended that XMH-827 is adjacent to XMH-315 and was actually a "rediscovery" of that site. Although the SHPO did not agree totally that XMH-827 is a redundant listing, they do agree that it is not eligible for the National Register.
XMH-828	Not Eligible	Unknown	XMH-828 was reported by an unknown person to the SHPO as a small lithic scatter. It was determined to be not eligible during consultation with the SHPO in 2004.
XMH-871	Not Evaluated	Unknown	This site was found during an informal reconnaissance of areas of Fort Greely during Charles Holmes' 2002 work at XMH-280. This site was discovered just south of the Ammunition Supply Point. A chert microblade core was found on the surface of this site along with several lithic waste flakes. See Figure 5-1.
XMH-1168	Not Evaluated	Northern Archaic	This site was discovered by Mark Hubbs in May 2004 during an informal reconnaissance with Aaron Robertson (Robertson, 2004). A single, albeit significant, diagnostic artifact was discovered on the surface. An intensive pedestrian survey of the site by seven people did not yield any other surface artifacts. A systematic sub-surface survey of the site would determine its nature and size and potentially its National Register status. See Figure 5-3.

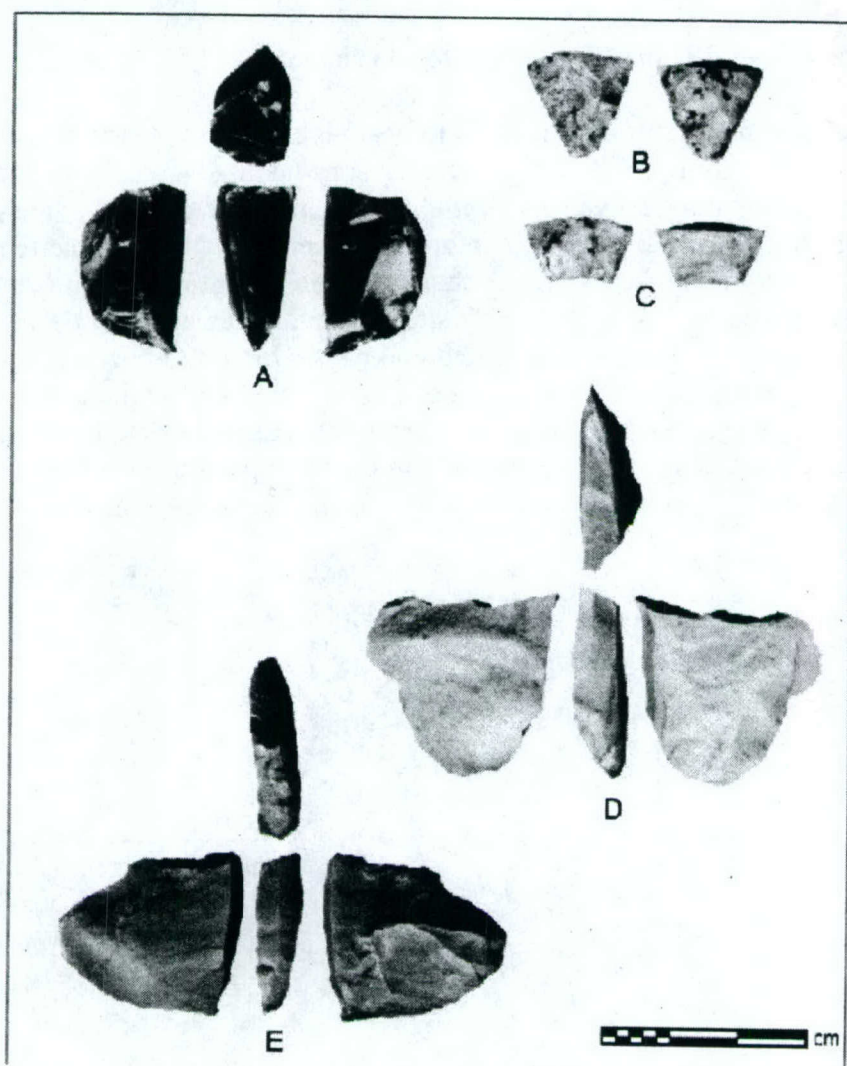


Figure 5-2. Artifacts from XMH-0280 recovered in 2002:
A.- obsidian microblade core; B. and C.- rhyolite biface base fragments;
D.- rhyolite microblade core. Surface find at XMH-0871; E.- chert microblade core.

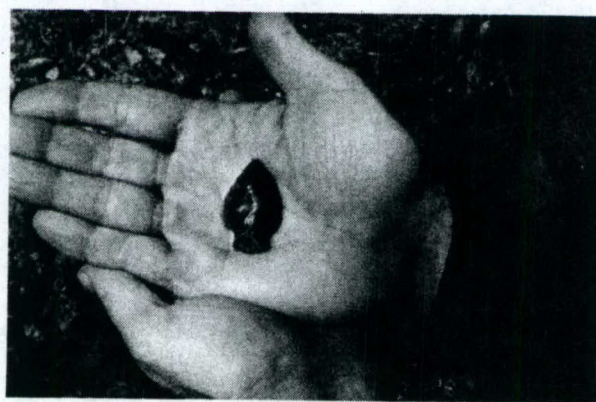


Figure 5-3. Northern Archaic side notched point from XMH-1168. The side notched point is one of only a few diagnostic artifacts that are recognized in Alaska. This type point is believed to have been in use in interior Alaska from 6,000 – 2,000 before current era (BCE).

5.2.2 Predictive High Probability Areas for Archaeological Sites

Interior Alaska's ice-free status during the Wisconsin Ice Age has preserved a 12,000-year continuum of human activity. Fort Greely and the surrounding Donnelly Training Area embody a vast archaeologically un-surveyed area with high potential for yielding evidence of this activity. Bluffs, terraces, and other high points have been found to be attractive locations for prehistoric campsites and lookouts. Understanding which geographic features were frequently used by prehistoric people will help identify sites and avoid damaging or destroying them during training missions, construction, and other undertakings. On Fort Greely, the north-south oriented ridge line that runs along Jarvis Creek on the eastern edge of the installation is a high probability zone for archaeological deposits. Figure 5-4 shows the areas considered to be high probability areas. The low, monotonous terrain prominent in the other parts of the installation can be considered to have a low probability of containing archaeological resources.

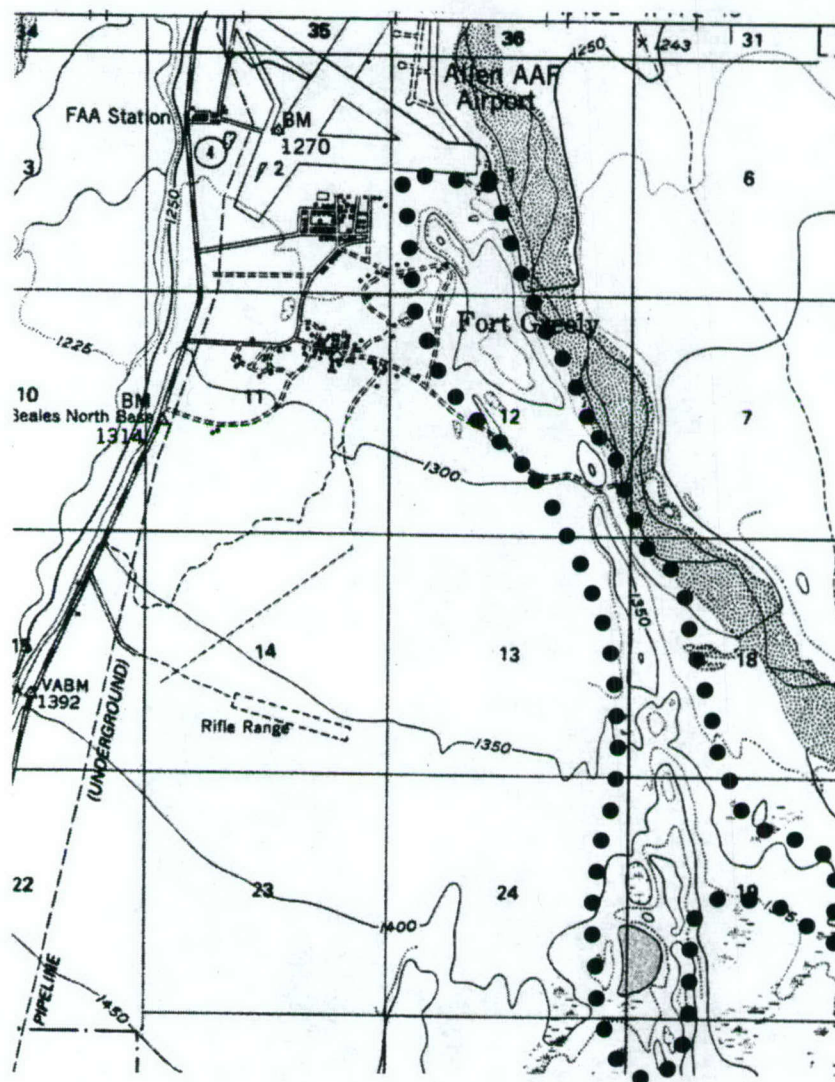


Figure 5-4 Archaeological High Probability Area at Fort Greely

5.2.3 Historic Properties

Table 5-4 describes each of the known Fort Greely Historic Properties at Fort Greely and indicates its National Register of Historic Places eligibility status. These properties are clustered together in a single historic district in the heart of the Fort Greely cantonment area.

Table 5-4. Fort Greely Historic Properties

Site Number	Building Number	Eligibility Status	Cultural Affiliation	Comments
XMH-656	501	Eligible	All Cold War Context	These structures were identified by Charles Mobley during the survey of Fort Greely structures that he conducted in 1997. All of these buildings, in a single historic district on the main post, were determined to be eligible for the National Register under a Cold War historical context. In 2000, Fort Greely and the SHPO entered into a Memorandum of Agreement (MOA) concerning these structures. The Army agreed to mitigate any impacts to these structures by preparing a Historic American Building Survey (HABS). With completion of the HABS recordation, the MOA allowed the Army to transfer, remodel, rehabilitate, or demolish any of these buildings without consultation with the SHPO. Since that time, Bldgs. 610 and 614 have been demolished. Others have also undergone significant alteration as a result of new mission requirements.
XMH-657	503	Eligible		
XMH-658	504	Eligible		
XMH-601	601	Eligible		
XMH-602	602	Eligible		
XMH-603	603	Eligible		
XMH-669	605	Eligible		
XMH-670	606	Eligible		
XMH-672	608	Eligible		
XMH-673	609	Eligible		
XMH-674	610	Torn Down		
XMH-675	612	Eligible		
XMH-676	614	Torn Down		
XMH-677	615	Eligible		
XMH-698	650	Eligible		
XMH-700	652	Eligible		
XMH-701	653	Eligible		
XMH-702	654/55	Eligible		
XMH-703	656	Eligible		
XMH-704	658	Eligible		
XMH-705	659	Eligible		
XMH-706	660	Eligible		
XMH-707	661	Eligible		
XMH-708	662	Eligible		
XMH-709	663	Eligible		
XMH-711	675	Eligible		

NOTES

6.0 IMPLEMENTING THE ICRMP

6.1 Garrison Commander's Role

Army Regulation 200-4, Section 1.4(f), and 36 CFR § 800 place responsibility for compliance with historic preservation laws and regulations on the Garrison Commander. As such, the Garrison Commander will implement this ICRMP. Prior to implementing this ICRMP, the Garrison Commander must complete the following actions.

1. Direct the preparation of an Environmental Assessment (EA) to support implementation of the ICRMP and initiate a public review of the ICRMP in accordance with the National Environmental Policy Act (NEPA) and AR 200-4.
2. Initiate a MACOM review of the ICRMP in accordance with AR 200-4.
3. Sign the ICRMP after MACOM and Headquarters, Department of the Army (HQDA) comments have been addressed.

Implementation of this ICRMP will require the Garrison Commander to take the following actions:

1. Designate a full-time, professional Cultural Resources Manager (CRM) who meets the "Secretary of the Interior's Professional Qualifications Standards," and task the individual to implement and coordinate the ICRMP.
2. The Garrison Commander will establish a government-to-government relationship with Federally recognized Indian tribes, as needed IAW AR 200-4,1-9(c). If there are significant Native American issues, he will also designate an installation "Coordinator for Native American Affairs" to facilitate the government-to-government relationship. The Garrison Commander will ensure that the Coordinator for Native American Affairs has appropriate knowledge, skills, and professional training and education to conduct installation consultation responsibilities with Indian tribes.
3. Establish a process that requires installation staff, tenants, contractors, users, and interested parties to coordinate with the CRM early in the planning of projects and activities to ensure compliance with Section 106 of the National Historic Preservation Act.
4. Establish funding priorities and provide program funds for cultural resources compliance and management activities.
5. Provide all Army cultural resources reporting information to HQDA to include the Installation Status Report (ISR), the Environmental Quality Report (EQR), and the Environmental Program Requirements (EPR) Report¹.
6. Provide for the annual review of the ICRMP and initiate revision of the ICRMP if the annual review indicates a need for such revision.

¹ The EPR Report serves as a source document in programming, budgeting, and allocating resources needed to execute the Army Environmental Program. It is used to show past accomplishments and expenditures; to indicate the status of current projects; to refine and validate requirements for budget year; and to support planning, programming, and budgeting for the outyears to build the Program Objective Memorandum (POM). In addition, EPR data is used for Congressionally mandated lists of funded projects that are part of the DoD Env Quality Report to Congress.

6.1.1 Annual Review of the ICRMP

This ICRMP must undergo an annual review to determine its effectiveness, make necessary improvements, incorporate changes in historic preservation programs, and update site location information. This review is initiated by the Garrison Commander and coordinated by the CRM. The product of this review should be a report on the cultural resources management program at Fort Greely. The report should summarize preservation activities completed and in progress, progress in carrying out the ICRMP Action Plan, difficulties encountered in performing these activities and in carrying out the ICRMP Action Plan, revisions proposed to the ICRMP, and any historic sites added to the inventory. A copy of this report should be entered as an appendix to the ICRMP. The ICRMP should be rewritten to include the annual review reports every five years, or when a major change in the cultural resource management procedures occurs (such as adoption of the Army Alternate Procedures).

6.2 Cultural Resources Manager's Role

As the Garrison Commander's expert on cultural resources, it is expected that the CRM will play the primary role in implementing this ICRMP. The CRM's responsibilities fall into six categories that are detailed in the following subsections.

6.2.1 NHPA Section 110

1. Coordinate a review of the installation's policies and procedures to ensure compliance with NHPA Section 110.
2. Coordinate development and implementation of a cultural resources survey plan for Fort Greely.
3. Coordinate implementation of a program for identification and evaluation of archaeological sites on Fort Greely.
4. Organize properties into representative classes and develop historic context documentation for their evaluation for eligibility in the NRHP.
5. Submit NHPA Section 110 funding requirements for the EPR report.

6.2.2 NHPA Section 106

1. Coordinate with installation staff, tenants, users, contractors, and interested parties early in the planning of projects and activities to ensure compliance with NHPA Section 106.
2. Coordinate NHPA Section 106 review with the ACHP, the SHPO, and consulting parties, as required.
3. Coordinate integration of cultural resources review into the NEPA review process, where possible, to streamline the NHPA Section 106 review process.
4. Submit NHPA Section 106 funding requirements for the EPR report.

6.2.3 Curation of Artifacts

1. Coordinate development of an MOA for curation of artifacts discovered on Fort Greely.
2. Include curation in the costs of Section 106 and Section 110 activities.
3. Submit funding requirements for the MOA for the EPR report.

6.2.4 Consultation with Native Americans

1. Coordinate establishment of Government to Government relations with Native American Tribal entities as required by Executive Order 13084, *Government to Government Relations with Indian Tribes*.
2. Coordinate development of a Comprehensive Agreement (CA) for consultation with Native entities on NAGPRA and other cultural issues.
3. Coordinate consultation with Native American Tribal entities under Section 106 for specific cultural and NEPA actions as required by Executive Order 13084, *Government to Government Relations with Indian Tribes*.
4. Submit funding requirements of the CA for the EPR report.

6.2.5 Historic Preservation Education Program

1. Provide an opportunity for the CRM to participate in historic preservation courses, as required, to stay abreast of new laws and regulations.
2. Coordinate with the Garrison Commander and his deputies to provide briefings, as required, on historic preservation laws and the progress of the cultural resources program on Fort Greely.
3. Coordinate development of a public education program through partnering with interested parties and development of instructional materials.
4. Submit funding requirements for a historic preservation education program for the EPR report.

6.2.6 Management Responsibilities

1. Pursuant to Section 112 of the NHPA, ensure that individuals performing preservation activities on Fort Greely meet the "Secretary of the Interior's Professional Qualifications Standards."
2. Coordinate an annual review of this ICRMP.
3. Integrate this ICRMP into all tenant agreements to ensure compliance with appropriate preservation laws.

6.3 ICRMP Implementation Costs

Funding will be required to implement this ICRMP and to keep the installation in compliance with the NHPA and AR 200-4. In accordance with AR 200-4, an estimate of implementation costs is provided in Table 6-1. This estimate consists of projected costs for Fort Greely for the next 5 years but does not include salaries of staff.

Table 6-1. Estimated ICRMP Implementation Costs

Project	FY05	FY06	FY07	FY08	FY09
Prepare an EA to support implementation of this ICRMP	\$8,000	—	—	—	—
Historic Preservation Education Program	\$4,500	\$3,500	\$3,500	\$3,500	\$3,500
Section 110 Identification/Evaluation	\$34,000	\$34,000	\$4,000	\$4,000	\$4,000
Establish Nation-to-Nation Relationship with Native Alaskan Tribes	*TBD	—	—	—	—
Develop a Comprehensive Agreement (CA) for consultation with Native entities on NAGPRA and other cultural issues	*TBD	—	—	—	—
Coordinate consultation with Native American Tribal entities on cultural and NEPA actions.	—	**TBD	**TBD	**TBD	**TBD
Develop a Memorandum of Agreement with the University of Alaska, Fairbanks for curation services	\$750				
Estimated Total Costs	\$47,250	\$37,500	\$7,500	\$7,500	\$7,500

* An estimate for this requirement will be prepared at a later time when it is determined when to pursue Nation-to-Nation Relationship consultation.

** This amount will be determined when the nature of the consultation is known. There will be many years that require no Nation-to-Nation consultation.

6.3.1 Preparation of an EA to Support Implementation of This ICRMP

Justification: Preparation of an EA to support the implementation of an ICRMP is required by the NEPA of 1969, as amended and by AR 200-4. NEPA requires Federal agencies to consider the environmental impacts of their proposed programs, projects, and actions prior to initiation.

Year	Program	Cost
2005	EA to Support Implementation of the ICRMP	\$8000
2006	-	-
2007	-	-
2008	-	-
2009	-	-
Total		\$8000

6.3.2 Historic Preservation Education Program

Justification: Pursuant to Section 112 of the NHPA, agency personnel or contractors responsible for historic resources must meet the "Secretary of the Interior's Professional Qualifications Standards" (36 CFR § 61). Appropriate training will assist the CRM in carrying out cultural resources management activities on Fort Greely, ensuring compliance with historic preservation laws. Education may include travel to seminars or conferences with other Alaska based agencies, the Alaska Historic Preservation Office and the Alaska regional National Park Service office.

A public education program that includes installation staff, residents and tenants on cultural resources laws and regulations will assist the Garrison Commander in achieving and maintaining compliance. Basic training for unit commanders on historic preservation laws and regulations, basic requirements of this ICRMP, and an introduction to the history of the Fort Greely will provide them with the necessary tools to be good stewards of the historic resources on Fort Greely. Implementation of a public education program for cultural resources on Fort Greely is a goal of this ICRMP. This program will be executed by means of the development of interpretive materials to inform visitors and residents of the Fort's rich prehistory and history and protective status of archaeological sites.

Year	Program	Cost
2005	Training and Education for CRM	\$3000
2006	Training and Education for CRM	\$3000
2007	Training and Education for CRM	\$3000
2008	Training and Education for CRM	\$3000
2009	Training and Education for CRM	\$3000
Total		\$15000

Year	Program	Cost
2005	Development and printing of Cultural Resources interpretive materials	\$1500
2006	Printing of interpretive materials	\$500
2007	Printing of interpretive materials	\$500
2008	Printing of interpretive materials	\$500
2009	Printing of interpretive materials	\$500
Total		\$3500

6.3.3 Section 110 Identification/Evaluation

Justification: Section 110 of the National Historic Preservation Act and Executive Order 11593, *Protection and Enhancement of the Cultural Environment* require Federal agencies to identify, evaluate, and nominate to the National Register, historic properties under their jurisdiction. Priorities for survey are based on the need for Fort Greely to achieve compliance with Section 110 and Executive Order 11593. Approximately 2550 acres of Fort Greely still must be surveyed to be compliant with Section 110. The lower half of the installation will be surveyed in 2005 and the upper half in 2006.

Year	Program	Cost
2005	Complete survey of lower half of installation	\$34000
2006	Complete survey of upper half of installation	\$34000
2007	-	-
2008	-	-
2009	-	-
Total		\$68000

Site evaluations are required to determine if archaeological sites are eligible for listing on the National Register of Historic Places. If a site is determined to be not eligible, it will require less consultation for future projects. It will be a goal to perform a determination on at least one site per year until all sites have been evaluated.

Year	Program	Cost
2005	Perform site evaluation on one archeological site	\$4000
2006	Perform site evaluation on one archeological site	\$4000
2007	Perform site evaluation on one archeological site	\$4000
2008	Perform site evaluation on one archeological site	\$4000
2009	Perform site evaluation on one archeological site	\$4000
Total		\$20000

6.3.4 Establish Nation-to-Nation Relationship with Native Alaskan Tribes

Justification: Consultation with Indians and Alaska Native entities on issues concerning them on Federally owned and managed properties is required by NHPA, NAGPRA, ARPA, and the National Environmental Policy Act (NEPA), AR 200-4 and DA Pam 200-4. Executive Order 13084 Government-to-Government Relations with Indian Tribes requires Federal agencies to consult with federally recognized Native American tribes on a government to government basis. BIA maintains a current list of federally recognized tribes. Under DA Pam 200-4, Section IV the Garrison Commander shall establish a Nation-to-Nation relationship with Native entities that have a cultural tie to the installation or the region.

The Tanana Chiefs Conference (TCC), with offices in Fairbanks, is a Tribal Compact of 32 Athabaskan Tribal Councils in Interior Alaska Pursuant to Public Law 93-638, TCC carries out the realty functions of the BIA in the Fairbanks region. TCC may facilitate consultation between the Army and the Tribal Councils of the Tanana Chiefs Conference. The CRM must contact each Indian tribe official to ascertain if they or TCC will represent the tribe in cultural resource issues. The TCC has identified seven Tribal Councils which should be contacted for activities which may affect Native Alaskan traditional and cultural use properties. Contact information is shown in Table 2-2. The initial meetings can be conducted at each of the seven villages or the representatives can be invited to a central meeting location. Experiences of the USAG-AK indicate that the Army will be expected to compensate the tribes for travel. An estimate for this requirement will be prepared at a later time when it is determined when to pursue Nation-to-Nation Relationship consultation.

6.3.5 Develop a Comprehensive Agreement (CA) for Consultation with Native Entities on NAGPRA and Other Cultural Issues

Justification: The Native American Graves Protection and Repatriation Act (NAGPRA) requires federal agencies to develop a CA to guide consultation with Native entities. The CA can also be developed as tool for other types of consultation and public involvement for Native entities, including for Section 106, NEPA and ARPA. Ideally, negotiation of this CA would be part of the

initially Nation-to-Nation relationship establishment. An estimate for this requirement will be prepared at a later time when it is determined when to pursue Nation-to-Nation Relationship consultation.

6.3.6 Coordinate Consultation With Native American Tribal Entities on Cultural and NEPA Actions

Justification: DA Pam 200-4, Section IV requires that the installation consult with Native Alaskan Tribes as part of compliance with Section 106 and the National Environmental Policy Act. Consultation could include both correspondence and meetings with tribes listed in Table 2-2. This amount will be determined when the nature of the consultation is known. There will be many years that require no Nation-to-Nation consultation.

6.3.7 Develop a Memorandum of Agreement With the University of Alaska, Fairbanks for Curation Services

Justification: Section 101(a)(7) of the NHPA directs the Secretary of the Interior to establish regulations for the proper curation of artifacts subject to Section 110 and the Archaeological Resources Protection Act (ARPA). These regulations are published in 36 CFR § 79, *Curation of Federally Owned and Administered Archaeological Collections*. The regulations place responsibility for curation of artifacts with the Federal Agency Official, the Garrison Commander. Artifacts recovered from federally owned and administered lands must be curated in a Federally recognized curation facility. Fort Greely does not have such a facility. The University of Alaska at Fairbanks offers this service to various agencies and requires a one time payment for the service. Guidance for curation of artifacts may be found at 48 FR 44737, *Archaeology and Historic Preservation: Secretary of the Interior's Standards and Guidelines*.

Year	Program	Cost
2005	Curation Services from Un. of Alaska, Fairbanks	\$750
2006	-	-
2007	-	-
2008	-	-
2009	-	-
Total		\$750

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APPENDIX E

INTEGRATED PESTICIDE MANAGEMENT PLAN

Chapter 9: Integrated Pesticide Management Plan

1. Purpose

This plan provides guidance to maintain an effective pest control program for the 7,000-acre Ft. Greely, Alaska (FGA) Installation to protect health, the environment and property. The plan stresses the integrated approach hierarchy of proactive surveillance and non-chemical control methods, lower toxicity chemical use and lowest effective chemical quantity use to achieve effective pest control with minimal environmental impact.

2. Scope

This plan addresses pesticide management selection, purchase, transport, storage, handling, use, spill control, waste minimization and disposal. It covers seven categories of significant pests:

- Disease vectors and medically important arthropods (filth flies, bees, wasps, spiders, mites, lice and fleas),
- Stored product pests (moths, weevils, and beetles),
- Real property pests (carpenter ants and wood-destroying fungi),
- General household and nuisance pests (cockroaches, silverfish, mosquitoes, gnats and biting flies),
- Miscellaneous animal pests (squirrels, voles, and mice),
- Undesirable vegetation (weeds, grasses and brush), and
- Pests of trees and ornamental vegetation (insects and aphids).

The plan has been prepared in accordance with:

- DOD Pest Management Program, DOD 4150.7, April 1996,
- U.S. AEC Guidelines to Prepare Pest Management Plans for Army Installations and Activities, September 1996,
- Pest Management, Army Regulation 200-5, October 1999,
- Integrated Pest Management MOU between EPA and DOD, March 1996
- U.S. Certification of Pesticides Applicators, 40 CFR 171, June 1993 and
- Pesticide Control, Alaska Department of Environmental Conservation, 18 AAC 90, July 2002

3. Responsibilities

- a. USASMDC Environmental Division (SMDC-ENV)

SMDC-ENV will provide general oversight for environmental at FGA, contractual support to FGAENV, and participate in budget preparation and processing for FGAENV and related environmental compliance activities.

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b. Garrison Commander

- (1) Designate an FGA Installation Pest Management Coordinator (IPMC).
- (2) Approve and support the Pest Management Plan.

c. FGA Installation Pest Management Coordinator

- (1) Maintain and update this plan.
- (2) Monitor pest surveillance and control through the Base Operations Contractor, to ensure the plan is followed and applicable information is maintained as required by this plan.
- (3) Coordinate with local, state, federal and U.S. Army agencies, as necessary.
- (4) Ban or approve specific pesticides and/or practices to minimize environmental impacts and ensure compliance with applicable regulations.

d. Base Support Contractor

- (1) Contract for pest control service at Fort Greely.
- (2) Ensure that the pest control applicators are licensed by the State of Alaska and maintain copies of their certifications.
- (3) Ensure that the pest control contractor has a copy of and is following the requirements of this plan.
- (4) Maintain records as required by this plan.

e. Pest Control Contractor

- (1) Comply with the requirements of this Pest Management Plan.
- (2) Ensure personnel are properly trained in pesticide handling, use and disposal practices and certified by the State of Alaska.
- (3) Provide the Base Support Contractor with documentation as required by this plan.
- (4) Use pesticides only after non-chemical pest control methods have been evaluated and determined ineffective.
- (5) Use pesticides in a manner consistent with the label to prevent harm or injury to others or the environment.
- (6) Evaluate all pesticides prior to use and assess the risks associated with the treatment. The least hazardous pesticide should always be used first, unless it has been proven to be ineffective.
- (7) Use only DOD and Army approved pesticides.

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f. Hazardous Waste Management Contractor

- (1) Dispose of waste pesticides and empty containers according to the Ft. Greely Hazardous Materials and Waste Management Procedure.

g. Building Occupants

- (1) Apply good sanitary practices to prevent pest infestations.
- (2) Cooperate with the Base Operations Contractor, DPW personnel and Pest Control personnel in integrated pest management.
- (3) Housing tenants may use over the counter consumer pesticides when applied according to the manufacturer's directions.
- (4) Over the counter consumer pesticide use is prohibited in the non-housing facilities unless applied by the certified pest control technicians.

4. Operations

a. Pesticide Selection and Purchase

- (1) Non-Chemical pest control methods will be considered and implemented when feasible to minimize, substitute or eliminate the use of chemicals.
- (2) Only EPA-registered pesticides will be procured and used. Restricted use pesticides must be approved by the Installation Pest Management Coordinator prior to procurement and will be applied in a manner consistent with the label. Pesticides banned by the U.S. EPA will not be procured or applied. (See Attachments A and B for a listing of banned and restricted use pesticides).
- (3) When pesticides are required, the least hazardous pesticide should be selected. A review of the applicable Material Safety Data Sheet and label will be used to determine the toxicity of the material.

b. Transport and Storage

- (1) Unused pesticides, discarded pesticides and pesticide containers will be transported closed and secured to prevent breakage and spillage.
- (2) No container will be used that is leaking, has deteriorated significantly as a result of rust, is bulging from overpressure, or is damaged in such a way that the material is liable to leak.

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- (3) No pesticides will be stored at Ft. Greely, any usable pesticide remaining after application at Ft. Greely must be removed from the installation for later use.
- (4) All waste pesticides and empty containers will be delivered to, or arranged for pickup by, the Ft. Greely hazardous waste management contractor. All usable pesticide remaining after application at Ft. Greely that will not be used in the future by the pest control contractor must be handled as a waste and provided to the Ft. Greely hazardous waste management contractor for disposal.

c. Handling and Use

- (1) All Pesticide Applicators will possess a valid and current commercial applicator certification for the intended use. Applicator certifications will meet State of Alaska standard, 18 AAC 90.
- (2) Pesticide Applicators will operate in a manner that minimizes risk of contamination to the environment and personnel.
- (3) No pesticides will be applied to Alaska State Waters (ponds, rivers, streams, groundwater, etc.) without a permit from the State of Alaska.

d. Spill Notification and Control

- (1) Report all spills and accidental releases immediately to the Ft. Greely Fire Department at 873-3473 in accordance with Ft. Greely Environmental Procedures, Chapter 5.
- (2) The Pest Management Contractor will stock its vehicles with spill response equipment necessary for spill control.
- (3) Measures to contain and cleanup a pesticide spill will be attempted only if it can be performed in a safe manner. Before attempting cleanup, ensure that another person is available to watch the activity and to report a problem, if one occurs, that proper personal protective equipment is used, and that the area is well ventilated.

e. Pollution Prevention and Waste Minimization

- (1) Pesticide brought onto Ft. Greely will be limited to the smallest quantities needed.
- (2) Application of pesticides should be planned to use the entire product to eliminate or reduce the disposal of mixed chemicals. Every attempt will be made to use pesticides through application in accordance with label directions.

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- (3) When applying pesticides outdoors, choose application equipment, formulations, and additives to minimize drift and runoff. Do not apply pesticides during or just before expected high winds or heavy rains or upwind of areas that should not be contaminated with pesticides.

5. Record Keeping

- a. The Pest Management Contractor will provide the following records to the Base Operations Contractor:
 - (1) Current applicator certification records for all personnel that work at Ft. Greely.
 - (2) MSDS's for all pesticides used at Ft. Greely.
 - (3) Documentation of the inspections, notices to building occupants, treatment documentation detailing the degree of infestation, and type of chemical used, total quantity of pesticide applied and active ingredient quantity applied by building number, and the date and name of pest control applicator.
- b. The Base Operations Support Contractor will maintain the records at their offices at Ft. Greely for at least three years and make the records available for review by the Ft. Greely Pest Management Coordinator.

6. Integrated Control Techniques

This section lists the integrated control techniques that are approved for use at Ft. Greely and list those actions that require approval by the Ft. Greely Pest Management Coordinator.

- a. Disease vectors and medically important arthropods (filth flies, bees, wasps, spiders, mites, lice and fleas)
 - (1) There are no known arthropod-borne diseases endemic to Alaska, so mosquitoes are addressed under the nuisance pest section.
 - (2) Stinging or biting arthropods such as bees, wasps and spiders eradication is neither feasible nor desirable. They will be treated with pesticides on an as needed basis to protect workers and inhabitants of Ft. Greely.
 - (3) Mites, lice and fleas will be limited through proper sanitation, removal of food sources, and physical exclusion. Chemical control methods will be used on an as needed basis.
- b. Stored product pests (moths, weevils, and beetles)
 - (1) Monthly inspections will be conducted of the dining facility and post exchange for infestations.

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- (2) The supervisors of the dining facility and post exchange are responsible for maintaining housekeeping and inspecting food stores to reduce the occurrence of an infestation.
 - (3) Infested products will be removed and spilled product or unsanitary conditions will be eliminated.
 - (4) Pesticide use to control stored product pests requires approval by the Ft. Greely Pesticide Management Coordinator.
- c. Real property pests (carpenter ants and wood-destroying fungi)
- (1) Carpenter ants will be controlled as needed, using glue traps, baits, and/or aerosol flushing and removal of the colony if it can be located.
 - (2) The use of treated lumber and humidity control through adequate ventilation will be used to control wood-destroying fungi.
- d. General household and nuisance pests (cockroaches, silverfish, mosquitoes, gnats and biting flies)
- (1) Regular surveillance and good housekeeping are the most important tools in controlling general household and nuisance pests. Pest control personnel will use regular inspections to determine species and degree of infestation and to determine appropriate control techniques.
 - (2) Cockroaches will be limited through occupant education, proper sanitation, removal of food sources, physical exclusion, and pesticide control personnel use of adhesive and bait traps. Chemical control methods will be used as a final measure after the others are tried or as needed to control infestations.
 - (3) Mosquito eradication in the cantonment and missile field areas is not feasible because of the number of standing water sites in the wooded areas. However, removing standing water in containers, gutters, etc. will reduce the number of mosquitoes. The Base Operations Contractor will use propane fuel biological traps in populated areas to control adult mosquitoes. The Pest Management Contractor may use juvenile and adult chemical pesticides with the approval of the Ft. Greely Pest Management Coordinator.
- e. Miscellaneous animal pests (birds, squirrels, voles, and mice)
- (1) These pests can damage stored food, wiring and structures. Rodent control is implemented on an as needed basis based upon inspections or in response to complaints. Live trapping and release is used for arctic ground squirrels with written approval by the FGAENV.
 - (2) Birds, primarily swallows, are beneficial for the control of mosquitoes and other pests but their nest construction can damage buildings and create a nuisance. Physical exclusion is the primary means of control. Swallows, nests or eggs shall not be destroyed or otherwise harmed without written approval of the FGAENV.

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- (3) The infrequent need for the control of beavers and shrews will be coordinated through the Ft. Greely Pest Management Coordinator in conjunction with the ADF&G.
- f. Undesirable vegetation (weeds, grasses and brush)
 - (1) Mechanical means will be used for the removal of unwanted weeds and grasses where practical.
 - (2) Where mechanical means are ineffective, selective, non-selective, and soil sterilant herbicides may be used.
 - (3) A notice must be placed at all building entrances that are within 50 feet of application areas.
 - (4) No herbicide can be used within 100 feet of a public water system well. The Ft. Greely wells are located at Buildings # 117, 131, 300, 329, 606 and 625.
- g. Pests of trees and ornamental vegetation (insects and aphids)
 - (1) Chemical control will be used only when damaging populations of these pests exist.

7. Definitions

- a. General Use Pesticides: A pesticide classified by the United States Environmental Protection Agency (EPA) as not likely to harm humans or the environment when used as directed on the label. General use pesticides are not restricted and are available to the public through over-the-counter sales.
- b. Pesticide: Substances or mixtures of substances intended for preventing, destroying, repelling or mitigating pests, or intended for use as a plant regulator, defoliant or desiccant.
- c. Registered Pesticides: The EPA must register every pesticide bought, sold or used. The number is present on the label indicating EPA approval of the product, its use and the label itself.
- d. Restricted Use Pesticides: A pesticide classified by the EPA as likely to damage the environment or be harmful to humans when used according to the label and which can only be applied by a certified pest controller. When a pesticide is restricted, the label will indicate "Restricted Use Pesticide" in a box on a prominent part of the front panel.

8. References

- a. AR 200-5 Environmental Quality Pest Management
- b. AR 420-76, Pest Management Program
- c. 40 CFR 171, US EPA Pesticide Certification
- d. 18 AAC 90, Pesticide Control

9. Attachments

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- a. Cancelled/Suspended Pesticides
- b. Restricted Use Pesticides

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Cancelled/Suspended Pesticides

Aldrin	Cancelled except for: 1) subsurface ground insertion for termite control; 2) dipping of non-food roots and tops; 3) moth-proofing by manufacturing processes in a closed system.
Amitraz	Conditional registration for use on pears with provisions.
Arsonic Trioxide	All products in excess of 1.5%
Benomyl	Not allowed for aerial application unless warning on labels of 5 lb or larger containers.
BHC	All registered products cancelled.
Bithionol	Cancelled, products intended for: 1) direct contact with the skin or can be expected to be in direct contact with the skin; 2) use in textiles or other materials likely to come in contact with the skin; 3) household use.
Captan	All uses cancelled except: 1) all non-food uses including technical captan; 2) seed treatments; and 3) the following food uses: almonds, apples (pre-and post-harvest), apricots, blackberries, blueberries, celery (plant bed), cherries (pre-and post harvest, blueberries, eggplant (plant bed), grapes, green onions, lettuce, mangos, nectarines, peaches, pears (post-harvest only), peppers (plant bed), pimentos (plant bed), plums/prunes, raspberries, spinach (plant bed), strawberries, taro and tomatoes (plant bed).
Carbon disulfide	All grain uses cancelled.
Chloranil	Voluntary cancellation, all products.
Chlordane	All uses cancelled except for dipping of roots of tops of non-food plants.
Chlordimeform	Voluntary cancellation as of 19 February 1989. All sales, distribution and use prohibited as of this date.
Chloroform	Cancelled for use as a grain fumigant.
Copper Arsenate	Voluntary cancellation.
DBCP	Voluntary cancellation of all registrations of end use products except of use on pineapples in Hawaii.
DDD	All products cancelled.
DDT	Cancelled, all products, except the following: 1) the US Public Health Service and other health Service Officials for the control of vector diseases; 2) the USDA or military for health quarantine; 3) in drugs, for controlling body lice; 4) in the formulation for prescription drugs for controlling body lice.
2, 4-D	Products bearing directions for use on small grains must bear the following precautions: Do not forage or graze treated grain fields within 2 weeks after treatment with 2, 4-D.
Diallate	Cancellation of all products unless they contain restricted use pesticide statement and protective clothing requirement.
Diazinon	Use on golf courses and sod farms cancelled.
Dieldrin	See Aldrin.
Dimethoate	All dust formulations cancelled. Protective clothing requirements for all other uses.
Disinfectants	All products bearing words 'germ proofing', 'germ proofs', and 'germ proof' are cancelled.
EBDCs	All products cancelled unless restrictions added to labels.
EDB	All products cancelled except for certain exceptions.

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Electromagnetic	Products ineffective. Actions taken to remove products from Pest Control the marketplace.
Electronic (sonic)	Products ineffective. Actions taken to remove products from Mosquito Repelling the marketplace.
Endrin	Most uses cancelled.
EPN	Mosquito larvicide products cancelled. Other products have modified labels.
Ethylene dichloride	All grain fumigant uses cancelled.
Fluoroacetamide	Label restrictions.
Goal (oxyfluorfen)	Cancelled on nonbearing and bearing tree fruits and nuts, conifer seedbeds, transplants and out-plantings, soybeans, and field corn unless PCE concentrations are below 200 ppm.
Heptachlor	See chlordane.
Kepone	All products cancelled 1 May 1978.
Lindane	Vaporizer use and indoor smoke generation use cancelled. Label restrictions on other products.
Mercury	Cancelled, all uses except: 1) as a fungicide in the treatment of textiles and fabrics intended for continuous outdoor use; 2) as a fungicide to control brown mold on freshly sawn lumber; 3) as a fungicide to control Dutch elm disease; 4) as an in-can preservative in water-based paints and coatings; 5) as a fungicide in water based paints and coatings used for exterior application; 6) as a fungicide to control 'winter turf' diseases such as Sclerotinia boreales and gray and pink snow mold subject to further restrictions.
Metaldehyde	Must have label restrictions.
Mirex	All products cancelled 1 December 1977.
OMPA	Voluntary cancellation, all products.
10, 10'	Use in windbreakers and baby pants cancelled.
Oxybisphenoxarsin e	
Parathion (Ethyl)	Certain restrictions apply.
PCNB	Label restrictions.
Phenarzine	All uses voluntarily cancelled.
Chloride	
Pronamide	Cancelled all hand spray uses except for ornamentals and nursery stock. Use on lettuce, alfalfa and forage legumes subject to label changes/restrictions.
Quaternary	Cancelled for use as a sanitizer in poultry drinking water.
Safrole	Voluntary cancellation of all products.
Seed treatments	All registrations cancelled of products not containing a dye or discoloring agent.
Silvex	Chlorodioxin contaminants not allowed. Cancellation of registrations of products, which contain silvex as an active ingredient. Except for those products whose registrations were suspended in 1979, all existing stocks which were packaged and labeled for non-suspected end use(s) and released for shipment before the receipt of the October 18, 1983 Federal Register notice may be distributed and sold for one year after the effective date of cancellation. Existing stocks of silvex which may be distributed and sold as described above include products for use on rice, rangeland,

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and sugarcane (field and stubble); for preharvest fruit drop of apples, prunes, and pears; for use on or around non-food crop areas and non-crop sites, including fencerows, hedgerows, fences (except for right-of-way, pasture uses, and home and garden uses), industrial sites or buildings (except for right-of-way, commercial/ornamental turf uses), storage areas, waste areas, vacant lots, and parking areas.

Sodium Arsenite	Unacceptable for home use if compound is in excess of 2.0%.
Sodium Cyanide	Cancelled and suspended except for use of M-44 device with restrictions.
Sodium Fluoride	Cancelled for home use if the product contains more than 40% of this compound.
Sodium Fluoroacetate	Cancelled and suspended for use in mammalia predator control.
Strobane	Voluntary cancellation, all products.
Strychnine	Most uses restricted. May be used only in special cases.
2, 4, 5-T	See silvex.
Thallium Sulfate	Cancelled and suspended, all uses.
TOK	Voluntary cancellation, all products.
Toxaphene	Most uses cancelled.
Trifluralin	Cancellation of all registrations and denial of all applications for registration of trifluralin containing products unless registrants and applicants amend the terms of registration.
Vinyl Chloride	Cancelled and suspended, all pesticide products containing this compound, whether an active or inert ingredient, for uses in the home, food handling establishments, hospitals or in enclosed areas.

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Restricted Use Pesticides

The following pesticides have some or all of their uses listed as restricted by the US Environmental Protection Agency (EPA).

Acrolein	Creosote oil	Methidathion
Acrylonitrile	Curacron	Methomyl
Aldicarb	Cyanazine	Methyl bromide
Aldrin	Cycloheximide	Methyl parathion
Allyl alcohol	Cypermethrin	Metribuzin
Aluminum phosphide	Demeton	Phorate
Amitraz	Diallate	Phosacetim
Amitrole	Diclofop methyl	Phosphamidon
Arsenic acid	Dicrotophos	Picloram
Arsenic pentoxide	Diiflubenzuron	Potassium pentachlorophenate
Arsenic trioxide	Dinocap	Potassium tetrachlorophenates
Avitrol	Dioxathion	Profenophos
DBCP	Disulfoton	Pronamide
Azinphos methyl	Dodomorph	Propetamphos
Bolstar	Endrin	Simazine
Brodifacoum	EPN	Sodium arsenate
Bromodiolone	Ethion	Sodium cyanide
Calcium Arsenate	Ethoprop	Sodium fluoroacetate
Calcium cyanide	Ethyl parathion	Sodium pentachlorophenate
Captafol	Fenamiphos	Starlicide
Carbofuran	Fensulfothion	Strychnine
Carbon tetrachloride	Fenthion	Sulfotepp
Carbophenothion	Fenvalerate	Sulfuryl fluoride
CGA-12223	Flucythrinate	Sulprofos
Chlordane	Fluoroacetamide/1081	
Chlordimeform	Fonofos	
Chlorfenvinphos	Heptachlor	
Chlorobenzilate	Hydrocyanic acid	
Chlorophacinone	Isazofos	
Chloropicrin	Isofenphos	
Chlonitralid	Lead arsenate	
Chlorpyrifos	Lindane	
Chromated arsenicals	Magnesium phosphide	
Coal tar creosote	Mesuroil	
Creosote	Methamidophos	



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